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THE LUMBER CUT OF THE UNITED
STATES: 1906.

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Previous to 1905, statistics upon the production of lumber and timber products were collected by the Bureau of the Census in connection with the decennial and quinquennial censuses of manufactures. To satisfy the urgent demand for more frequent reports upon these important products, the Forest Service collected statistics of the production in 1905. In 1906 the Bureau of the Census and the Forest Service arranged to cooperate in the preparation of annual statistics of forest products.

The collection and compilation of the statistics of production in 1906, therefore, have been under the direct supervision of W. M. Steuart, Chief Statistician for Manufactures, and J. E. Whelchel, Expert Chief of Division, on the part of the Bureau of the Census; and R. S. Kellogg, Chief of the Office of Wood Utilization, and H. M. Hale, Forest Assistant, on the part of the Forest Service.

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THE LUMBER CUT OF THE UNITED STATES: 1906.

The data given in this circular are based upon reports from 22,398 lumber manufacturers, representing all parts of the United States. A large proportion of the reports were received directly from the manufacturers on a schedule prepared by the Bureau of the Census and the Forest Service. In addition, the Northern Pine Manufacturers Association, the Yellow Pine Manufacturers Association, the North Carolina Pine Manufacturers Association, the Western Pine Manufacturers Association, the Southern Cypress Manufacturers Association, and the Pacific Coast Lumber Manufacturers Association rendered efficient help in securing reports from negligent manufacturers. All the data for New York were furnished by the Forest, Fish, and Game Commission of that State, which made an especially close canvass, with the result that a statement of the output of practically every mill in the State was secured.

No claim is made that the figures here presented are absolutely correct for the quantity and value of the lumber output of the various States in 1906, but they are close approximations. There are a large number of small and portable sawmills throughout the country which were not reached, but the influence of their combined output upon the total is relatively slight, as is well shown by a comparison of the reports from New York in 1905 and in 1906. The Forest, Fish, and Game Commission obtained reports from 1,167 mills in that State in 1905, and from 2,488 mills in 1906, an increase of 113 per cent in the number of reports; but the total quantity of lumber reported in 1906 was but 8 per cent greater than that in 1905.

The reported lumber production of the United States in 1906 was 37,550,736,000 feet, with a mill value of \$621,151,388, the largest quantity ever reported for a single year, and by far the greatest value. In addition there were produced 11,858,260,000 shingles, valued at \$24,154,555, and 3,812,807,000 lath, valued at \$11,490,570. The total value of the lumber, lath, and shingle production reported in 1906 was thus \$656,796,513. Making a fair allowance for incomplete reports, it is safe to say that at present the annual lumber cut of the United States approximates 40 billion feet, and that the total mill value of the lumber, lath, and shingles annually produced is not less than \$700,000,000.

In the following pages are given details of the production of lumber, lath, and shingles by States and by species, and comparisons with Census statistics for 1899 and 1904 (based upon the censuses of 1900 and 1905). No detailed reports were received from Alaska. It is known, however, that the cut of Alaskan mills in 1906 approximated 16 million feet, of which some 15 million was spruce and the rest mainly cedar.

SUMMARY OF LUMBER PRODUCTION.

Table 1 gives the lumber production of the United States by leading species in 1899, 1904, and 1906. The apparent slight decrease in the production of 1904 over that of 1899 is due to a difference in the method of taking the two censuses, and not to an actual diminution of the output. In 1899 reports were received from both merchant and custom mills, but in 1904 the census was restricted to the former. In 1906 figures were sought once more from both kinds. The statistics for 1904, then, are not strictly comparable with the others. In 1899 the whole number reported was 31,833, of which probably about 23,500 were merchant mills; in 1904 the number was 19,127; in 1906, 22,396. For a number of years the tendency has been toward a reduction in the number of lumber mills, with an accompanying increase in the output of each remaining establishment. The decrease in the number of mills on account of the lessening timber supply in some localities is hardly counterbalanced by the new plants set up in other regions.

TABLE 1.—*Comparison of lumber production of leading species, 1899, 1904, 1906.*

Kind.	1899	1904	1906	Per cent increase (+) or decrease (-) since 1899.
<i>M feet.</i>	<i>M feet.</i>	<i>M feet.</i>		
Yellow pine.....	9,658,923	11,533,070	11,661,077	+ 20.7
Douglas fir.....	1,736,507	2,928,409	4,969,843	+186.2
White pine ^a	1,742,391	5,332,704	4,583,727	- 40.8
Hemlock.....	3,420,673	3,268,787	3,587,329	+ 3.4
Oak.....	4,438,027	2,902,855	2,820,393	- 36.4
Spruce.....	1,448,091	1,303,886	1,644,987	+ 13.6
Western pine.....	944,185	1,279,237	1,386,777	+ 46.9
Maple.....	633,466	587,558	882,578	+ 39.4
Cypress.....	495,836	749,592	839,276	+ 69.3
Poplar.....	1,115,242	853,554	683,132	- 38.7
Redwood.....	300,167	519,207	659,678	+ 83.2
Red gum.....	255,417	523,990	453,678	+ 59.0
Chestnut.....	206,688	243,537	407,379	+ 97.1
Basswood.....	308,069	225,041	376,838	+ 22.3
Birch.....	132,601	224,009	270,432	+ 179.3
Cedar.....	232,978	223,035	357,845	+ 53.7
Beech.....	(6)	(6)	275,661	-----
Cottonwood.....	415,124	321,574	293,996	- 36.4
Elm.....	456,731	258,330	224,795	- 50.8
Ash.....	269,120	169,178	214,460	- 20.3
All others.....	485,848	684,526	936,555	+ 92.4
Total.....	34,787,084	34,135,139	37,550,726	+ 7.9

^a Includes Norway pine.

^b Not separately reported.

Since 1899, the first year for which detailed figures upon the cut of the individual species are available, there have been decided changes in the rank of most of the important lumber-producing species. The total cut of softwood lumber in 1899 was 26,153,063,000 feet, and of hardwood, 8,634,021,000 feet. In 1906 the softwood cut was 30,235,245,000 feet, and the hardwood cut, 7,315,491,000. In these seven years the softwood cut increased over 4 billion feet, while the hardwood cut decreased more than 1,300,000,000 feet; in other words, the hardwoods in 1899 amounted to nearly 25 per cent of the total, and in 1906 to less than 19.5 per cent. Since 1899 among softwoods the cut of yellow pine has increased 20.7 per cent, that of western pine 46.9 per cent, that of cypress 69.3 per cent, that of redwood 83.2 per cent, and that of Douglas fir 186.2 per cent; which far more than counterbalance the decrease of 40.8 per cent in white pine. On the other hand, the cut of the two most important hardwoods, oak and poplar, has decreased 36.4 per cent and 38.7 per cent, respectively. Of the less important woods, chestnut and basswood have increased decidedly, while cottonwood and elm have fallen off heavily.

Yellow pine is still far in the lead as a lumber producer, as it has been for a long time. White pine, however, which was second until a year or two ago, is now third and has been supplanted by Douglas fir, which was fifth in 1899. The production of hemlock has been very constant, and that wood is still in the fourth place, as in 1899. Oak has dropped from third to fifth place. Spruce still remains sixth.

A comparison of the lumber production of the principal States in 1899 and 1906, in the order of their importance in 1906, is given in Table 2.

TABLE 2.—*Comparison of lumber production of leading States, 1899, 1904, 1906*

State.	1899	1904	1906	Per cent increase (+) or decrease (-) since 1899.
	<i>M feet.</i>	<i>M feet.</i>	<i>M feet.</i>	
Washington.....	1,428,205	2,485,628	4,305,053	+201.5
Louisiana.....	1,113,423	2,459,327	2,796,395	+151.1
Wisconsin.....	3,361,943	2,628,157	2,331,305	-30.7
Michigan.....	3,012,057	2,006,670	2,094,279	-30.5
Mississippi.....	1,202,334	1,727,391	1,840,250	+53.0
Arkansas.....	1,595,933	1,680,536	1,839,368	+15.2
Minnesota.....	2,341,619	1,942,248	1,794,144	-23.4
Texas.....	1,230,904	1,406,473	1,741,473	+41.5
Pennsylvania.....	2,321,284	1,738,972	1,620,881	-30.2
Oregon.....	734,181	987,107	1,604,894	+118.0
California.....	734,232	1,077,499	1,348,559	+83.7
North Carolina.....	1,278,399	1,318,411	1,222,974	-4.3
Maine.....	756,515	863,860	1,088,747	+43.9
Virginia.....	956,169	949,797	1,063,241	+11.2
Alabama.....	1,096,539	1,243,988	1,099,783	-7.9
West Virginia.....	773,583	855,889	976,173	+26.2
Florida.....	788,905	812,693	888,137	+12.6
Georgia.....	1,308,610	1,135,910	831,675	-36.4
New York.....	874,754	581,976	810,949	-7.3
Kentucky.....	765,343	586,371	661,299	-23.4

TABLE 2.—*Comparison of lumber production of leading States, etc.*—Continued.

State.	1899	1904	1906	Per cent increase (+) or decrease (-) since 1899.
Tennessee.....	<i>M feet.</i> 939,463	<i>M feet.</i> 775,885	<i>M feet.</i> 634,587	— 32.5
South Carolina.....	466,109	609,769	566,928	+ 21.6
New Hampshire.....	562,258	491,591	539,259	— 4.1
Missouri.....	715,968	553,940	507,084	— 29.2
Indiana.....	977,878	563,853	447,808	— 54.3
Ohio.....	957,239	420,905	438,775	— 54.1
Idaho.....	65,331	211,447	418,944	+ 541.3
Massachusetts.....	342,058	262,467	354,483	+ 3.6
All others.....	2,085,848	• 1,761,379	1,773,289	— 15.0
Total.....	34,787,084	34,135,139	37,550,736	+ 7.9

The changes which have taken place in the cut of the various species are strikingly reflected in this table. The cut of Idaho in 1906 was more than six times that of 1899, that of Washington was triple, and that of Oregon more than double. In the same length of time the lumber production of Louisiana increased 151.1 per cent, that of California 83.7 per cent, and that of Mississippi 53 per cent. On the other hand, the cuts of Indiana and Ohio decreased 54 per cent, that of Georgia 36.4 per cent, and that of Wisconsin and Michigan 30 per cent.

It is interesting to carry these comparisons back to the earliest date for which figures upon the lumber cuts in the various States are available, to show the shifting which has taken place in the sources of our lumber supply. Michigan, for instance, furnished 23 per cent of the lumber production of the United States in 1880, but only 5.6 per cent in 1906. Louisiana cut 0.7 per cent of the total of 1880, and 7.4 per cent of that of 1906. Washington furnished only 0.9 per cent of the lumber production in 1880, and 11.5 per cent of that of twenty-six years later. The great lumber-producing centers moved first from the pine and spruce forests of New England westward through New York and Pennsylvania to the white-pine region of the Lake States, and then swung southward to the great yellow-pine belt. Now, however, the Pacific Northwest is rapidly assuming the position of chief importance, and lumber from California, Oregon, and Washington is steadily working its way eastward across the plains and the prairies. The Pacific coast at present contains the country's greatest supply of virgin timber, yet lumbering in that region is heavy and is increasing.

The quantity and value of the lumber production of the United States by species in 1906 are shown in Table 3. The total quantity was 37,550,736,000 feet, valued at \$621,151,388 at the mill, an average of \$16.60 per M.

TABLE 3.—*Production of lumber by species, 1906.*

Kind.	M feet.	Per cent.	Total value.	Value per M feet.
Yellow pine.....	11,661,077	31.1	\$175,178,446	\$15.02
Douglas fir.....	4,969,843	13.2	70,567,141	14.20
White pine.....	4,583,727	12.2	83,952,701	18.32
Hemlock.....	3,537,329	9.4	54,153,242	15.31
Oak.....	2,820,393	7.5	61,377,266	21.76
Spruce.....	1,644,987	4.4	28,515,439	17.33
Western pine.....	1,386,777	3.7	19,423,937	14.01
Maple.....	882,878	2.4	13,714,053	15.53
Cypress.....	839,276	2.2	18,403,392	21.94
Poplar.....	683,132	1.8	16,538,260	24.21
Redwood.....	659,678	1.8	10,978,759	16.64
Red gum.....	453,678	1.2	6,102,886	13.46
Chestnut.....	407,379	1.1	7,128,864	17.49
Basswood.....	376,838	1.0	7,029,950	18.66
Birch.....	370,432	1.0	6,384,705	17.24
Cedar.....	357,845	1.0	6,484,600	18.12
Beech.....	275,661	.7	3,873,436	14.05
Cottonwood.....	263,996	.7	4,525,565	17.15
Elm.....	224,795	.6	4,066,035	18.08
Ash.....	214,460	.6	5,222,477	24.35
Larch.....	166,078	.4	1,978,709	11.91
Hickory.....	148,212	.4	4,508,583	30.42
Sugar pine.....	133,640	.4	2,152,662	16.11
Tamarack.....	123,395	.3	1,926,627	15.63
White fir.....	104,329	.3	1,346,317	12.91
Walnut.....	48,174	.1	2,033,718	42.25
Tupelo.....	47,882	.1	676,476	14.13
All others.....	164,845	.4	2,907,112	17.63
Total.....	37,550,736	100.0	621,151,388	16.60

Over 31 per cent of the total cut was furnished by yellow pine, while white pine and Douglas fir compete closely for second place, with an advantage of 1 per cent in favor of fir. The seven woods of which the annual cut is more than 1,000,000 feet each are yellow pine, Douglas fir, white pine, hemlock, oak, spruce, and western pine, which together furnish over four-fifths of the total production. The rank in point of value varies greatly, however, from that based upon the quantity produced. Of the woods which are cut in quantities exceeding one-half million feet each, poplar has the highest average value, \$24.21 per M, and western pine the lowest, \$14.01. The average values of oak and cypress are nearly the same, \$21.76 for the former and \$21.94 for the latter. Of the coniferous woods besides cypress white pine is the most valuable and averages \$18.32 per M, \$3.30 more than yellow pine and \$4.12 more than Douglas fir, its leading competitors. Of the hardwoods, walnut, at \$42.25, is the highest priced, owing to its small production and its use in high-class work. Of the other hardwoods hickory and ash lead, with \$30.42 and \$24.35 per M, respectively. The lowest-priced woods are larch, at \$11.91, and white fir, at \$12.91.

The average mill values per M of the various kinds of lumber in 1899, 1904, and 1906 are given in Table 4. In almost every case the values of 1904 are greater than those of 1899 and without exception those of 1906 exceed and often greatly exceed those of the first year quoted.

TABLE 4.—*Average value per M, by species, 1899, 1904, and 1906.*

Kind.	Average value per M.			Per cent increase since 1899.
	1899	1904	1906	
Yellow pine.....	\$8.48	\$9.97	\$15.02	77.0
Douglas fir.....	8.67	9.51	14.20	63.0
White pine.....	12.66	14.93	18.32	45.0
Hemlock.....	9.98	11.91	15.31	54.0
Oak.....	13.78	17.51	21.76	59.0
Spruce.....	11.27	14.03	17.33	53.8
Western pine.....	9.70	11.29	14.01	44.0
Maple.....	11.83	14.94	15.38	30.0
Cypress.....	13.32	17.50	21.94	64.0
Poplar.....	14.08	18.99	24.21	73.0
Redwood.....	10.12	12.59	16.64	64.0
Red gum.....	9.68	10.87	13.46	40.0
Chestnut.....	13.37	13.78	17.19	30.0
Basswood.....	12.84	16.86	18.66	45.0
Birch.....	12.50	15.44	17.24	37.0
Cedar.....	10.91	14.35	18.12	66.0
Beech.....	(a)	(a)	14.05	-----
Cottonwood.....	10.37	14.92	17.15	65.0
Elm.....	11.47	14.45	18.08	58.0
Ash.....	15.84	18.77	24.35	54.0
Larch.....	(a)	(a)	11.91	-----
Hickory.....	18.78	23.94	30.42	61.0
Sugar pine.....	12.30	(a)	16.11	31.0
Tamarack.....	8.73	11.39	15.63	80.0
White fir.....	(a)	(a)	12.91	-----
Walnut.....	36.49	(a)	42.25	16.0
Tupelo.....	(a)	(a)	14.13	-----
All others.....	18.25	20.30	22.20	21.7
Average.....	11.08	12.76	16.60	49.0

^a Not separately reported.

Yellow pine advanced from \$8.48 per M in 1899 to \$15.02 in 1906, 77 per cent. Cedar rose from \$10.91 to \$18.12, 66 per cent; cypress, from \$13.32 to \$21.94, and redwood from \$10.12 to \$16.64, 64 per cent in each case. Douglas fir increased from \$8.67 to \$14.20, 63 per cent, and poplar from \$14.03 to \$24.21, or 73 per cent. Notable increases are also shown by hickory, oak, spruce, western pine, hemlock, and ash.

Table 5 gives the lumber production by States in 1906. Washington with nearly 4½ billion feet, ranks first with 11.5 per cent, followed by Louisiana with 7.4 per cent, Wisconsin with 6.2 per cent, and Michigan with 5.6 per cent, the latter having a production of a little over 2 billion feet. The States which produced between 1½ and 2 billion feet are Mississippi, Arkansas, Minnesota, Texas, Pennsylvania, and Oregon; while those which produced between 1 and 1½ billion feet are California, North Carolina, Maine, Virginia, and Alabama. These 15 States furnished nearly three-quarters of the lumber produced in the United States last year.

TABLE 5.—*Production of lumber by States, 1906.*

State.	M feet.	Per cent.	Total value.	Value per M feet.
Washington.....	4,305,053	11.5	\$62,162,840	\$14.44
Louisiana.....	2,796,395	7.4	46,460,499	16.61
Wisconsin.....	2,331,305	6.2	39,997,360	17.16
Michigan.....	2,094,279	5.6	33,357,883	15.93
Mississippi.....	1,840,250	4.9	30,950,278	16.81
Arkansas.....	1,839,368	4.9	29,657,784	16.12
Minnesota.....	1,794,144	4.8	31,243,835	17.41
Texas.....	1,741,473	4.6	26,111,477	14.99
Pennsylvania.....	1,620,881	4.3	29,804,260	18.39
Oregon.....	1,604,894	4.3	22,358,673	13.93
California.....	1,348,559	3.6	20,726,799	15.37
North Carolina.....	1,222,974	3.3	19,066,437	15.59
Maine.....	1,088,747	2.9	18,369,334	16.87
Virginia.....	1,063,241	2.8	16,187,028	15.22
Alabama.....	1,009,783	2.7	15,706,600	15.55
West Virginia.....	976,173	2.6	18,245,195	18.69
Florida.....	888,137	2.4	15,588,716	17.50
Georgia.....	831,675	2.2	12,792,888	15.33
New York.....	810,949	2.1	17,241,866	21.26
Kentucky.....	661,299	1.8	13,170,127	19.92
Tennessee.....	634,587	1.7	13,485,630	21.25
South Carolina.....	566,928	1.5	8,959,042	15.80
New Hampshire.....	539,259	1.4	8,356,002	15.50
Missouri.....	507,084	1.3	8,025,233	15.83
Indiana.....	447,808	1.2	11,044,323	24.66
Ohio.....	438,775	1.2	10,589,568	24.13
Idaho.....	418,944	1.1	5,966,157	14.24
Massachusetts.....	354,483	.9	5,507,655	15.54
Vermont.....	329,422	.9	5,474,004	16.61
Montana.....	328,727	.9	4,330,834	13.18
Maryland.....	219,098	.6	3,755,439	17.14
Iowa.....	163,747	.4	3,723,915	22.74
Illinois.....	141,374	.4	3,073,482	21.74
Connecticut.....	124,880	.3	2,300,427	18.42
Colorado.....	110,212	.3	1,359,258	12.33
New Mexico.....	103,079	.3	1,935,686	18.78
Arizona.....	56,960	.2	875,886	15.38
Indian Territory.....	48,694	.1	635,417	13.05
Delaware.....	44,487	.1	545,219	12.26
New Jersey.....	36,253	.1	921,536	25.42
South Dakota.....	22,634	.1	359,254	15.87
Rhode Island.....	21,528	.1	377,243	17.52
Wyoming.....	13,213	(a)	197,943	14.99
Utah.....	7,768	(a)	118,176	15.21
All others (Kansas and Oklahoma).....	1,213	(a)	84,190	77.00
Total.....	37,550,736	100.0	621,151,388	16.00

^a Less than 0.1 per cent.

Washington, which was the fifth State in lumber production in 1900, became second in 1904 and first in 1905, displacing Wisconsin in the latter year. The advance of Louisiana in point of importance has also been striking. It was eleventh in 1899, third in 1904, and second in 1906. This advance is due to the fact that the State furnishes a large proportion of the cypress cut, and leads in yellow pine. Wisconsin, which was first in 1899 and 1904, is now third, and probably will not hold that place long, because of the great decrease of white pine production in that State.

As was noted in the discussion of Table 3, the greatest production of lumber does not necessarily mean the greatest value. Consequently the rank of the States based upon value of lumber production differs somewhat from that based upon quantity, though the four States which are first in quantity—Washington, Louisiana, Wisconsin, and Michigan—have also the same rank based upon value. But

the value of the lumber production of Minnesota, for instance, exceeds that of Mississippi, although the quantity is less, and the value of the production of Pennsylvania exceeds that of Texas and Arkansas. The very high value per M (\$77), shown under the heading "All others," is due to the fact that most of the lumber was walnut.

LUMBER PRODUCTION BY SPECIES.

Tables 6 to 32 give the quantity and value of each kind of lumber cut in the various States in 1906 in the order of their importance.

YELLOW PINE.

Under the heading "Yellow pine" are grouped all the reports of pine production in the East and South, except those upon white and Norway pine. Several species, such as pitch pine, loblolly pine, Cuban pine, shortleaf pine, and longleaf pine, enter into the total. A large proportion of the cut, however, probably 50 per cent, is composed of longleaf pine, while the remainder is chiefly shortleaf and loblolly. Most of the cut in Texas, Louisiana, Mississippi, Alabama, Georgia, and Florida is longleaf pine, while practically all that of Arkansas and Missouri is shortleaf. Most of the pine cut in Virginia and North and South Carolina is loblolly, or, as it is widely known commercially, North Carolina pine.

Reports of yellow pine production were received from 30 States. The total was 11,661,077,000 feet, valued at \$175,178,446, or \$15.02 per M, as shown by Table 6.

TABLE 6.—*Cut of yellow pine, 1906.*

State.	M feet.	Percent.	Total value.	Value per M feet.
Louisiana.....	2,120,615	18.2	\$31,919,636	\$15.05
Texas.....	1,720,043	14.8	25,711,088	14.95
Mississippi.....	1,509,554	13.0	24,387,901	16.16
Arkansas.....	1,271,618	10.9	18,754,844	14.75
Alabama.....	936,493	8.0	14,268,768	15.24
North Carolina.....	899,042	7.7	12,406,188	13.80
Florida.....	800,844	6.9	13,321,947	16.63
Georgia.....	761,842	6.5	11,445,404	15.02
Virginia.....	703,598	6.0	9,311,998	13.23
South Carolina.....	527,240	4.5	8,251,020	15.65
Missouri.....	176,526	1.5	2,164,881	12.26
Maryland.....	63,870	.5	857,425	13.42
All others (14).....	169,792	1.5	2,377,346	14.00
Total.....	11,661,077	100.0	175,178,446	15.02

Louisiana is now the leading State in yellow pine production, with an annual cut of over 2 billion feet. Texas cuts nearly $1\frac{3}{4}$ billion, Mississippi a little more than $1\frac{1}{2}$ billion, and Arkansas over $1\frac{1}{4}$ billion. The production of these four States aggregates nearly three-fifths of the whole. The annual cut of yellow pine is still increasing slightly, but the center of production is moving westward; in 1899,

for instance, Georgia was first, while now it is eighth, and North Carolina, which was second, is now sixth.

The average mill value of yellow pine lumber varies from \$12.26 per M in Missouri to \$16.63 in Florida. The difference in kind of timber cut accounts to some extent for this range; the cut of Missouri is all shortleaf and that of Florida nearly all longleaf, and a considerable portion of it export timber. While the total quantity of yellow pine lumber cut has increased less than 21 per cent since 1899, the mill value of the output has risen 114 per cent—from \$81,946,073 in 1899 to \$175,178,446 in 1906.

DOUGLAS FIR.

The total cut of Douglas fir for 1906 was nearly 5 billion feet, valued at over 70 million dollars, of which the State of Washington furnished more than two-thirds and Oregon more than one-fourth. California cut about 127 million feet; Montana, Idaho, and five other States, small amounts.

TABLE 7.—*Cut of Douglas fir, 1906.*

State.	M feet.	Percent.	Total value.	Value per M feet.
Washington.....	3,405,510	68.5	\$48,841,166	\$14.34
Oregon.....	1,347,467	27.2	18,869,690	14.00
California.....	127,149	2.5	1,687,480	13.27
Montana.....	41,537	.8	510,039	12.28
Idaho.....	34,670	.7	455,421	13.14
All others (5).....	13,510	.3	203,345	15.05
Total.....	4,969,843	100.0	70,567,141	14.20

The cut of Douglas fir in 1906 was 186.2 per cent greater than that in 1899, while the value increased 370 per cent. The average mill values of Douglas fir lumber reported from Washington and Oregon, where conditions of manufacture are similar, are nearly the same, \$14.34 in Washington and \$14 in Oregon.

There is still a large amount of virgin Douglas fir stumppage in the Northwest, and the indications are that the cut will increase for a number of years.

WHITE PINE.

White pine is one of the most widely distributed species throughout the North and East. Reports of lumber produced from it were received from 31 States. Two-thirds of the cut, however, comes from the Lake States, as shown by Table 8. In this table Norway or red pine is included with white pine. It is impossible to get accurate reports upon the cut of Norway pine, as it is often manufactured and sold with white pine in the Lake States under the common name of northern pine. Common lumber, under the rules of the Northern

Pine Manufacturers Association, may consist of either white or Norway pine or a mixture of the two. The proportion of Norway pine to true white pine has increased within recent years, and it is probably safe to say that at present nearly one-third of the pine cut in the Lake States is Norway pine. This indicates a total Norway pine production of about 1 billion feet.

TABLE 8.—*Cut of white pine, 1906.*

State.	M feet.	Per cent.	Total value.	Value per M feet.
Minnesota.....	1,664,734	36.2	\$29,072,499	\$17.46
Wisconsin.....	933,169	20.4	18,480,287	19.80
Michigan.....	435,211	9.5	9,234,874	21.22
New Hampshire.....	332,319	7.3	4,947,740	14.89
Maine.....	291,663	6.4	4,797,003	16.45
Massachusetts.....	230,763	5.1	3,391,930	14.70
Iowa.....	140,969	3.1	3,276,896	23.26
New York.....	111,950	2.4	2,462,900	22.00
Pennsylvania.....	96,564	2.1	2,323,375	24.06
Idaho.....	84,314	1.8	1,326,532	15.73
North Carolina.....	39,637	.9	695,967	17.56
Virginia.....	33,784	.7	530,113	15.69
West Virginia.....	31,322	.7	594,407	18.98
Tennessee.....	28,600	.6	541,980	18.95
Connecticut.....	25,611	.6	443,409	17.31
Vermont.....	24,944	.5	433,748	17.39
Washington.....	23,415	.5	391,441	16.72
All others (14).....	54,818	1.2	1,007,000	18.37
Total.....	4,583,727	100.0	83,952,701	18.32

Minnesota is far in the lead as a white pine producer, and over one-third of the total quantity comes from there. Wisconsin is cutting one-fifth of the total production, and Michigan nearly one-tenth. The cut in all these States is rapidly decreasing because of the depletion of the forests. The pine cut of Michigan in 1906 was only about one-third of that in 1899, that of Wisconsin about two-fifths, and that of Minnesota less than three-fourths. Iowa is credited with some 140 million feet, but this was from northern timber which was brought down the Mississippi to be sawed. The white pine production of New York and New England is running pretty steady; while locally important, it is not large, and in New England consists to a considerable extent of second growth timber.

It is worthy of remark that the Southern Appalachian region in Virginia, West Virginia, North Carolina, and Tennessee cut over 130 billion feet of white pine last year, compared with a very small output in 1899. It is also interesting to note that a production of 112 million feet of white pine was reported from Idaho, Montana, and Washington. This is the western white pine (*Pinus monticola*) and should not be confused with the so-called western white pine or California white pine (*Pinus ponderosa*), which is given under the heading of "Western pine," Table 12. The western white pine is cut principally in the territory known locally as the "Inland

Empire," comprising western Montana, northern Idaho, and eastern Washington.

The decrease in the cut of white pine has been accompanied by a strong increase in value, so that while the production has fallen off over 40 per cent since 1899 the mill value of the lumber has declined only about 14 per cent. The white pine of the Lake States has played a wonderful part in the development of the United States, particularly in furnishing material for home building on the prairies and plains from the seventies to the nineties. For more than twenty years Michigan was the leading lumber-producing State of the Union, and it has been estimated that the total amount of pine lumber cut in this State exceeded 160 billion feet, with a value at the point of production of not less than \$2,000,000,000, or nearly 50 per cent more than has been added to the wealth of the Nation by the gold fields of California since their discovery in 1848.

HEMLOCK.

Hemlock is widely distributed; reports of hemlock lumber production were received from 29 States, although three States, Pennsylvania, Wisconsin, and Michigan, furnished nearly three-fourths of the total. The production of the hemlock lumber in 1906 was 3,537,329,000 feet, valued at \$54,153,242, or \$15.31 per M.

TABLE 9.—*Cut of hemlock, 1906.*

State.	M feet.	Percent.	Total value.	Value per M feet.
Pennsylvania.....	966,480	27.3	\$16,589,522	\$17.16
Wisconsin.....	826,908	23.4	11,928,593	14.43
Michigan.....	797,883	22.6	10,695,489	13.40
West Virginia.....	219,959	6.2	3,545,928	16.12
New York.....	208,848	5.9	3,968,112	19.00
Maine.....	118,294	3.3	1,745,519	14.76
Washington.....	90,002	2.5	1,100,470	12.23
Vermont.....	56,042	1.6	925,336	16.51
New Hampshire.....	54,858	1.6	814,451	14.85
Maryland.....	34,722	1.0	544,645	15.69
Massachusetts.....	31,271	.9	463,352	14.88
North Carolina.....	28,727	.8	377,597	13.14
Tennessee.....	23,666	.7	331,119	13.99
Virginia.....	22,029	.6	319,163	14.49
Kentucky.....	21,449	.6	271,215	12.64
All others (14).....	36,191	1.0	530,731	14.67
Total.....	3,537,329	100.0	54,153,242	.15.31

Pennsylvania, as it has for a long time, still leads in hemlock production, with more than 27 per cent of the total, though the cut in that State in 1906 was 38 per cent less than in 1899. The cut in Michigan has decreased slightly in the last seven years, while that of Wisconsin has more than doubled. Apparently Wisconsin will soon outrank Pennsylvania. There has been a notable increase in the cut of hemlock in the Southern Appalachian region, in the States of West Virginia, Virginia, Tennessee, Kentucky, and North Carolina.

The cut of West Virginia, the most important of this group, increased 153 per cent in the last seven years, while in the other four States the hemlock production, which was almost negligible in 1899, reached more than 74 million feet in 1906.

It is also notable that the State of Washington, where a few years ago practically no hemlock lumber was produced, reported a cut of 90,000,000 feet last year. This is the western species of hemlock, the wood of which is superior in some respects to that of the eastern species; and it is probable that its output will soon increase considerably.

There has been a striking increase in the values of hemlock lumber in the various regions, caused partly by the rise in price of other kinds of lumber and partly by the recognition of the fact that hemlock, once a despised and neglected wood, is really a useful timber for many purposes. While the total quantity of hemlock reported in 1906 was but little more than 3 per cent more than that reported in 1899, the total value of the 1906 cut was 58 per cent greater.

OAK.

The oaks are among the most widely distributed species of the United States, and reports of oak lumber production in greater or less quantity were received from 37 States. In Table 10 the several species of oaks are not distinguished, since it is impossible, as the reports are made, to draw any certain line of distinction between them. The principal species which are cut for lumber, however, are white oak, red oak, chestnut oak, cow oak, chinquapin oak, bur oak, and Spanish oak. Of the total quantity of oak reported for 1906 about two-thirds was classified with the white oak group, and about one-third with the red oak group.

TABLE 10.—*Cut of oak, 1906.*

State.	M feet.	Percent.	Total value.	Value per M feet.
Kentucky.....	339,829	12.0	\$6,667,701	\$19.62
West Virginia.....	314,961	11.2	5,988,533	19.01
Tennessee.....	274,974	9.8	6,257,436	22.76
Ohio.....	244,673	8.7	5,864,674	23.97
Pennsylvania.....	243,110	8.6	5,429,430	22.33
Indiana.....	221,120	7.8	5,942,767	26.88
Arkansas.....	218,896	7.8	4,388,448	20.05
Virginia.....	158,456	5.6	3,156,180	19.92
Missouri.....	143,608	5.1	2,762,883	19.24
Mississippi.....	119,370	4.2	2,892,721	24.23
North Carolina.....	107,262	3.8	2,362,382	22.02
Illinois.....	70,767	2.5	1,602,274	22.64
Maryland.....	64,929	2.3	1,394,238	21.47
Wisconsin.....	45,996	1.6	1,092,929	23.76
Alabama.....	32,976	1.2	737,053	22.35
Michigan.....	27,647	1.0	670,857	24.27
New York.....	24,116	.9	723,480	30.00
Georgia.....	24,050	.9	404,687	16.83
Connecticut.....	23,817	.8	530,609	22.28
All others (18).....	119,836	4.2	2,307,984	20.92
Total.....	2,820,393	100.0	61,377,266	21.76

The cut of oak lumber reported in 1906 was 2,820,393,000 feet, valued at \$61,377,266, or \$21.76 per M. The cut of oak is decreasing rapidly; it has fallen off more than 36 per cent in the past seven years. Kentucky now leads in its production and furnished 12 per cent of the total in 1906, followed closely by West Virginia with 11.2 per cent. The next States in importance, all fairly close together, are Tennessee, Ohio, Pennsylvania, Indiana, and Arkansas. In 1899 Indiana was the first State in oak production, with a cut of nearly 650 million feet; now it ranks sixth, with a cut of only 34 per cent of that of seven years ago. Ohio, which was second in 1899, suffered a decrease of 59 per cent, and now is fourth. Even Kentucky, West Virginia, and Tennessee, the leading States, all produce less oak lumber than formerly. The only States of any importance in oak production which have increased their output recently are Virginia, North Carolina, and Mississippi, and they furnish only about one-eighth of the whole.

The shortage of oak lumber is strongly reflected in the mill values. The total value reported in 1906 is slightly greater than that of 1899, notwithstanding the fact that less than two-thirds of the quantity was produced. The lowest average mill value per M reported was \$16.83 in Georgia and the highest \$30 in New York.

SPRUCE.

The cutting of spruce lumber in 1906 was reported from 27 States, but three-fifths of the total quantity was furnished by three—Maine, Washington, and New York.

TABLE 11.—*Cut of spruce, 1906.*

State.	M feet.	Per cent.	Total value.	Value per M feet.
Maine...	557,975	33.8	\$9,802,083	\$17.57
Washington...	243,493	14.8	3,557,335	14.61
New York...	210,123	12.8	4,307,521	20.50
West Virginia...	161,834	9.8	2,934,678	18.13
Vermont...	136,867	8.3	2,366,094	17.29
New Hampshire...	90,156	5.5	1,608,101	17.84
Oregon...	78,652	4.8	1,188,638	15.11
Virginia...	29,496	1.8	515,543	17.48
Minnesota...	27,682	1.7	494,880	17.88
Massachusetts...	26,068	1.6	465,901	17.90
Colorado...	23,991	1.5	316,472	13.19
All others (16)...	58,650	3.6	958,193	16.35
Total.....	1,644,987	100.0	28,515,439	17.33

Maine has for many years been the leading spruce-producing State and maintained its position in 1906, when it supplied over one-third of the total and more than double the quantity furnished by its closest competitor, Washington. The cut of spruce in Washington, however, is rapidly increasing, and was nearly three times as much

in 1906 as in 1899. The cut of New York has fallen off recently, and that of Vermont and New Hampshire has decreased about one-half since 1899. In the Eastern States the principal increase in the cut of spruce has taken place in West Virginia.

For the country as a whole there has been a small increase in the cut of spruce. The price, however, has risen so much that the total mill value of the 1,664,987,000 feet cut in 1906 was \$28,515,439, against \$16,322,666 for the 1,448,091,000 feet cut in 1899.

In addition to the spruce which is cut for lumber, large quantities are also used for the manufacture of pulp, particularly in New York and New England. Altogether, about three-fifths as much spruce was used for pulp as for lumber in the United States in 1906.

WESTERN PINE.

The term "western pine" is here used to designate the species known botanically as *Pinus ponderosa*, or western yellow pine, and commercially as "California white pine," "western white pine," and "western pine." This tree is widely distributed throughout the Rocky Mountain and Pacific coast States. The cut of western pine in 1906 was 1,386,777,000 feet, valued at \$19,423,937, an average of \$14.01 per M.

TABLE 12.—*Cut of western pine, 1906.*

State.	M feet.	Percent.	Total value.	Value per M feet.
California.....	347,249	25.0	\$4,826,436	\$13.90
Washington.....	265,820	19.2	3,377,417	12.71
Idaho.....	210,305	15.1	3,081,870	14.65
Montana.....	165,849	12.0	2,359,545	14.23
Oregon.....	131,460	9.5	1,603,909	12.20
New Mexico.....	92,467	6.7	1,773,252	19.18
Colorado.....	81,724	5.9	987,805	12.09
Arizona.....	59,586	4.1	872,754	15.42
South Dakota.....	22,534	1.6	357,654	15.57
All others (2).....	12,783	.9	183,295	14.34
Total.....	1,386,777	100.0	19,423,937	14.01

California, the leading State in western pine production, cut one-fourth of the total last year. Washington produced nearly one-fifth of the entire quantity reported, Idaho between one-sixth and one-seventh, and Montana not quite one-eighth.

The production of western pine lumber has increased nearly one-half since 1899, largely on account of the additional cuts in Washington and Idaho, and the value of the product has more than doubled in that period.

MAPLE.

The cutting of maple lumber in 1906 was reported from 29 States. More than half of the total was furnished by Michigan. Wisconsin

ranks second, but furnishes little more than one-sixth of the quantity produced by Michigan. Next in order come Pennsylvania, New York, and Vermont.

TABLE 13.—*Cut of maple, 1906.*

State.	M. feet.	Per cent.	Total value.	Value per M feet.
Michigan.....	492,845	55.8	\$7,096,204	\$14.40
Wisconsin.....	84,740	9.6	1,173,357	13.85
Pennsylvania.....	75,081	8.5	1,221,905	16.27
New York.....	60,566	6.9	1,544,433	25.50
Vermont.....	34,859	4.0	530,249	15.21
Indiana.....	29,555	3.3	525,298	17.77
Ohio.....	23,071	2.6	382,208	16.57
West Virginia.....	20,278	2.3	261,385	12.89
All others (21).....	61,883	7.0	979,044	15.82
Total.....	882,878	100.0	13,714,083	15.53

The cut of maple in Michigan has grown nearly 25 per cent since 1899, and increases in the output of all the other important States have also taken place. The value of the total cut has increased over 80 per cent in the same time.

CYPRESS.

Cypress reaches its most extensive development in the swamps of Louisiana, and this State furnished over 68 per cent of the 1906 production. In the whole United States 839,276,000 feet were cut, valued at more than \$18,400,000, or nearly \$22 per M. Florida furnished nearly one-tenth of the output, and the remainder came from 15 other States.

TABLE 14.—*Cut of cypress, 1906.*

State.	M feet.	Per cent.	Total value.	Value per M feet.
Louisiana.....	573,096	68.3	\$12,849,911	\$22.42
Florida.....	82,834	9.9	2,016,977	24.35
Mississippi.....	44,528	5.3	881,695	19.80
Arkansas.....	38,780	4.6	687,633	17.73
North Carolina.....	21,710	2.6	415,565	19.14
South Carolina.....	21,368	2.5	440,977	20.64
Missouri.....	16,465	2.0	270,596	16.43
Georgia.....	15,908	1.9	375,893	23.63
All others (9).....	24,587	2.9	464,145	18.88
Total.....	839,276	100.0	18,403,392	21.94

The cut of cypress in Louisiana has more than doubled since 1899, but relatively small changes have taken place in the output of the other States. The total cut in 1906 was 69.3 per cent greater than that of 1899, while the reported mill value increased 179 per cent during the same period.

POPLAR.

Three-fifths of the lumber produced from this valuable wood in 1906 was furnished by Kentucky, West Virginia, and Tennessee.

The total cut was 683,132,000 feet, valued at \$16,538,260, or \$24.21 per M.

TABLE 15.—*Cut of poplar, 1906.*

State.	M feet.	Percent.	Total value.	Value per M feet.
Kentucky.....	160,123	23.4	\$3,732,465	\$23.31
West Virginia.....	129,652	19.0	3,230,434	24.92
Tennessee.....	127,881	18.7	3,025,395	23.66
Virginia.....	61,344	9.0	1,417,417	23.11
Ohio.....	58,358	8.6	1,708,458	29.28
North Carolina.....	58,080	8.5	1,344,167	23.14
Indiana.....	25,234	3.7	732,433	29.03
Georgia.....	15,106	2.2	297,159	19.67
Alabama.....	12,270	1.8	241,933	19.72
All others (20).....	35,084	5.1	808,399	23.05
Total.....	683,132	100.0	16,538,260	24.21

The cut of poplar has decreased in every State of importance. Since 1899 the production in Kentucky has fallen off over 41 per cent, that in West Virginia nearly 33 per cent, and that in Tennessee over 52 per cent. This decrease has been accompanied by such a rise in value, however, that the total value of the 1906 production exceeded by \$891,929 that of the much greater output of 1899.

REDWOOD.

Redwood is an exclusively California product, and that State furnished 659,678,000 feet, valued at \$10,978,759, or \$16.64 per M. Even in California only small portions of the State contribute to the redwood production, which is of two kinds—the coast redwood, which is restricted to a narrow belt near the coast, principally north of San Francisco, and the big tree, which occurs in scattering groves along the western slopes of the Sierras.

TABLE 16.—*Cut of redwood, 1906.*

State.	M feet.	Percent.	Total value.	Value per M feet.
California.....	659,678	100.0	\$10,978,759	\$16.64

The cut of big tree lumber was less than 8½ million feet, and was reported from Calaveras, Fresno, and Tulare counties. The coast redwood was cut principally in Humboldt and Mendocino counties—51.5 per cent in the former and 28.6 per cent in the latter. The total redwood production in 1906 was over 80 per cent more than that of 1899, and the total value in 1906 was three times as great as that seven years before.

RED GUM.

The production of red-gum lumber in 1906 was reported from 21 States, but more than two-thirds of the whole quantity was furnished

by Arkansas, Missouri, and Mississippi. The total was 453,678,000 feet, valued at \$6,102,886, or \$13.46 per M. The cut of red gum in 1906 was much greater than that in 1899, but less than in 1904, so evidently the maximum output of this species has been passed.

TABLE 17.—*Cut of red gum, 1906.*

State.	M feet.	Per cent.	Total value.	Value per M feet.
Arkansas.....	140,819	31.0	\$1,774,394	\$12.60
Missouri.....	95,184	21.0	1,213,440	12.75
Mississippi.....	73,412	16.2	998,106	13.60
Tennessee.....	35,250	7.8	574,528	16.30
Kentucky.....	26,728	5.9	379,029	14.18
Indiana.....	21,036	4.6	312,171	14.84
Louisiana.....	12,855	2.8	225,438	17.54
Illinois.....	9,878	2.2	136,871	13.86
North Carolina.....	8,598	1.9	113,999	13.26
Alabama.....	8,436	1.9	113,966	13.51
All others (11).....	21,482	4.7	260,934	12.15
Total.....	453,678	100.0	6,102,886	13.46

CHESTNUT.

Chestnut is another widely distributed tree. The cutting of chestnut lumber was reported from 22 States in 1906, the total cut being 407,379,000 feet, valued at \$7,128,864, an average of \$17.49 per M.

TABLE 18.—*Cut of chestnut, 1906.*

State.	M feet.	Per cent.	Total value.	Value per M feet.
Pennsylvania.....	73,096	18.0	\$1,268,989	\$17.36
West Virginia.....	52,122	12.8	825,301	15.83
Connecticut.....	49,750	12.2	891,543	17.92
Tennessee.....	40,182	9.9	659,451	16.41
North Carolina.....	34,707	8.5	664,223	19.14
Massachusetts.....	30,325	7.4	523,446	17.26
Virginia.....	27,869	6.8	475,934	17.08
Kentucky.....	24,865	6.1	406,926	16.37
New York.....	22,696	5.6	431,224	19.00
Maryland.....	19,752	4.8	344,381	17.44
All others (12).....	32,015	7.9	637,446	19.91
Total.....	407,379	100.0	7,128,864	17.49

Chestnut is characteristic of the Appalachian region and New England, and the leading States in its production are Pennsylvania, West Virginia, Connecticut, and Tennessee, which together furnished over one-half the entire output.

The cut of chestnut is increasing; that in 1906 was nearly double the product of 1899. The value in 1906 was 158 per cent greater than in the former year.

BASSWOOD.

Over three-fifths of the basswood lumber production in 1906 was furnished by Wisconsin and Michigan, and the cut in Wisconsin was more than double that in Michigan. Twenty-four other States con-

tributed to the total output of 376,838,000 feet, valued at \$7,029,950, or \$18.66 per M.

TABLE 19.—*Cut of basswood, 1906.*

State.	M feet.	Per cent.	Total value.	Value per M feet.
Wisconsin.....	162,155	43.0	\$2,890,178	\$17.82
Michigan.....	73,458	19.5	1,397,018	19.02
New York.....	28,850	7.7	692,400	24.00
Pennsylvania.....	17,932	4.7	337,269	18.81
West Virginia.....	17,480	4.6	320,592	18.34
Ohio.....	12,718	3.4	241,313	18.97
Minnesota.....	10,743	2.9	177,584	16.53
Vermont.....	9,482	2.5	154,259	16.27
Kentucky.....	9,436	2.5	169,176	17.93
Indiana.....	8,547	2.3	179,300	20.98
Tennessee.....	8,274	2.2	161,442	19.51
All others (13).....	17,763	4.7	309,419	17.42
Total.....	376,838	100.0	7,029,950	18.66

The cut of basswood has apparently been fairly steady during the past seven years, with a slight increase. A decided increase in the mill value of the lumber, however, is shown by the fact that the 308,069,000 feet reported in 1899 had a value of less than \$4,000,000, compared with more than \$7,000,000 for the 376,838,000 feet in 1906.

BIRCH.

Two-fifths of the birch lumber production is furnished by Wisconsin, and over one-fourth by Michigan and New York together. The total reported cut in 1906 was 370,432,000 feet, valued at \$6,384,705, or \$17.24 per M. The cut in 1906 was more than two and one-half times that in 1899. Wisconsin has long been the first State in birch production, but Michigan has only recently attained second place.

TABLE 20.—*Cut of birch, 1906.*

State.	M feet.	Per cent.	Total value.	Value per M feet.
Wisconsin.....	151,063	40.8	\$2,334,163	\$15.45
Michigan.....	55,949	15.1	975,637	17.44
New York.....	50,142	13.6	1,153,266	23.00
Maine.....	30,533	8.2	586,792	19.22
Vermont.....	29,577	8.0	454,033	15.35
Pennsylvania.....	25,583	6.9	448,953	17.55
New Hampshire.....	15,605	4.2	246,264	15.78
All others (10).....	11,980	3.2	185,597	15.50
Total.....	370,432	100.0	6,384,705	17.24

CEDAR.

Several species enter into the total cut of cedar lumber, which in 1906 was 357,845,000 feet, valued at \$6,484,600, or \$18.12 per M. Washington is the only State which produces any considerable quan-

ity of cedar lumber, and the cut there was almost two-thirds of the total for the United States. As cedar goes most largely into posts, poles, ties, and shingles, it is probable that not more than one-fourth of the total cut is represented by lumber.

TABLE 21.—*Cut of cedar, 1906.*

State.	M feet.	Per cent.	Total value.	Value per M feet.
Washington.....	236,648	66.2	\$4,415,054	\$18.66
Idaho.....	27,736	7.7	346,321	12.49
Michigan.....	24,265	6.8	426,223	17.57
Oregon.....	20,481	5.7	329,119	16.07
Maine.....	15,100	4.2	258,396	17.11
California.....	12,489	3.5	163,879	13.12
All others (18).....	21,126	5.9	545,608	25.83
Total.....	357,845	100.0	6,484,600	18.12

BEECH.

Beech is a wood which has come into prominence so recently that it was not separately reported by the Census in 1899 and 1904. The Forest Service obtained reports of beech production in 1905, which showed 219,000,000 feet. The reports for 1906 aggregated 275,661,000 feet, valued at \$3,873,436, or \$14.05 per M. Beech is also widely distributed, and 25 States contributed to its production in 1906. Nearly three-fourths of the total quantity, however, was furnished by Michigan, Pennsylvania, New York, and Indiana.

TABLE 22.—*Cut of beech, 1906.*

State.	M feet.	Per cent.	Total value.	Value per M feet.
Michigan.....	76,281	27.7	\$912,162	\$11.96
Pennsylvania.....	53,892	19.6	719,151	13.34
New York.....	39,738	14.4	695,415	17.50
Indiana.....	31,501	11.4	530,792	16.85
Vermont.....	14,976	5.4	205,981	13.75
Maine.....	10,449	3.8	162,262	15.53
Ohio.....	8,904	3.2	132,181	14.85
New Hampshire.....	8,087	3.0	107,932	13.35
West Virginia.....	7,538	2.7	79,677	10.57
Wisconsin.....	7,431	2.7	103,093	13.87
All others (15).....	16,864	6.1	224,790	13.31
Total.....	275,661	100.0	3,873,436	14.05

COTTONWOOD.

The production of cottonwood lumber in 1906 was reported from 28 States. More than three-fourths of it was cut in Arkansas, Mississippi, and Louisiana; more than one-third in Arkansas alone. Only relatively small quantities were produced in the other 25 States reporting cottonwood lumber. The production in 1906 was 263,996,000 feet, valued at \$4,525,565, an average of \$17.15 per M. The cut of

cottonwood is decreasing rapidly, but the 263,996,000 feet produced in 1906 had a greater mill value than the 415,124,000 feet cut in 1899.

TABLE 23.—*Cut of cottonwood, 1906.*

State.	M feet.	Per cent.	Total value.	Value per M feet.
Arkansas.....	92,610	35.1	\$1,814,153	\$19.59
Mississippi.....	59,840	22.7	982,839	16.42
Louisiana.....	52,672	20.0	763,205	14.49
Missouri.....	9,353	3.5	160,731	17.18
Indian Territory.....	9,352	3.5	116,322	12.44
Tennessee.....	7,478	2.8	150,619	20.14
Illinois.....	6,153	2.3	103,006	16.74
All others (21).....	26,538	10.1	434,590	16.36
Total.....	263,996	100.0	4,525,565	17.15

ELM.

The production of elm lumber in 1906 amounted to 224,795,000 feet, valued at \$4,066,035, or \$18.08 per M. Thirty-two States reported, but three-fifths of the whole was furnished by Wisconsin, Indiana, Michigan, and Ohio. The production reported in 1906 was less than one-half that of 1899. It is probable that the quantity of elm used in the manufacture of slack cooperage stock considerably exceeds that used for lumber.

TABLE 24.—*Cut of elm, 1906.*

State.	M feet.	Per cent.	Total value.	Value per M feet.
Wisconsin.....	42,136	18.7	\$720,590	\$17.10
Indiana.....	34,580	15.4	660,451	19.10
Michigan.....	29,261	13.0	541,544	18.51
Ohio.....	29,058	12.9	541,729	18.64
New York.....	19,855	8.9	496,375	25.00
Missouri.....	15,251	6.8	233,690	15.32
Illinois.....	12,699	5.6	217,178	17.10
Arkansas.....	11,532	5.1	168,078	14.57
Pennsylvania.....	5,635	2.5	101,308	17.98
Tennessee.....	4,513	2.0	70,362	15.59
Kentucky.....	3,994	1.8	57,025	14.28
All others (21).....	16,281	7.3	257,705	15.83
Total.....	224,795	100.0	4,066,035	18.08

ASH.

Ash lumber is cut in small quantities in many States, no one of which is far in the lead. The cut in 1906 amounted to 214,460,000 feet, valued at \$5,222,477, or \$24.35 per M, as given in Table 25. Michigan ranks first, with 11.4 per cent of the total, and Ohio second with 10 per cent. Arkansas, Indiana, and Wisconsin furnished nearly equal quantities. The cut of ash is decreasing, particularly in the Northern States, and while Michigan still leads, the output there in 1906 was less than 29 per cent that in 1899. Ash is a high-

priced lumber; the average mill value ranges from \$20.37 per M in Michigan to \$29.50 per M in Ohio.

TABLE 25.—*Cut of ash, 1906.*

State.	M feet.	Per cent.	Total value.	Value per M feet.
Michigan.....	24,500	11.4	\$499,061	\$20.37
Ohio.....	21,359	10.0	630,155	29.50
Arkansas.....	20,571	9.6	583,871	28.38
Indiana.....	19,631	9.2	527,261	26.86
Wisconsin.....	19,386	9.0	364,473	18.80
New York.....	15,585	7.3	374,040	24.00
Tennessee.....	12,404	5.8	327,801	26.43
Pennsylvania.....	9,484	4.4	240,186	25.33
Kentucky.....	8,999	4.2	211,596	23.51
Mississippi.....	8,850	4.1	221,778	25.06
Missouri.....	7,972	3.7	232,790	29.20
Vermont.....	5,184	2.4	106,072	20.46
North Carolina.....	4,769	2.2	126,290	26.48
All others (22).....	35,766	16.7	777,103	21.73
Total.....	214,460	100.0	5,222,477	24.35

LARCH.

The cut of larch, or western tamarack, in 1906 amounted to 166,078,000 feet, valued at \$1,978,709, or \$11.91 per M. Almost all of the larch lumber is produced in those portions of Montana, Idaho, and Washington constituting the "Inland Empire." The extensive cutting of larch lumber is a recent development. The production in 1906 was more than four times that in 1899. It is a rather new timber upon the market, which, together with the fact that its weight makes its shipping charges higher than those of other woods produced in the same territory, tends to depress its mill value.

TABLE 26.—*Cut of larch, 1906.*

State.	M feet.	Per cent.	Total value.	Value per M feet.
Montana.....	91,488	55.1	\$1,095,580	\$11.98
Idaho.....	39,575	23.8	465,137	11.75
Washington.....	31,249	18.8	368,958	11.81
Oregon.....	3,766	2.3	49,034	13.02
Total.....	166,078	100.0	1,978,709	11.91

HICKORY.

The cutting of hickory lumber was reported to some extent from 32 States in 1906, but it is not safe to assume in every instance that hickory lumber credited to a particular State came from trees grown in that State. Valuable woods like hickory are often shipped to centers of consumption for sawing, and so it is not unusual for hickory logs from the South to be cut in Ohio and Indiana factories.

TABLE 27.—*Cut of hickory, 1906.*

State.	M feet.	Percent.	Total value.	Value per M feet.
Arkansas.....	23,364	15.8	\$902,201	\$38.62
Indiana.....	21,931	14.8	684,945	31.23
Kentucky.....	19,134	12.9	479,264	25.05
Ohio.....	15,836	10.7	481,782	30.42
Tennessee.....	11,996	8.1	346,715	28.90
Missouri.....	10,630	7.2	313,372	29.48
Pennsylvania.....	9,389	6.3	254,477	27.10
Illinois.....	8,602	5.8	255,448	29.70
Mississippi.....	6,247	4.2	264,548	42.35
West Virginia.....	4,646	3.1	97,000	20.88
All others (22).....	16,437	11.1	428,831	26.10
Total.....	148,212	100.0	4,508,583	30.42

The reported cut of hickory lumber in 1906 amounted to 148,212,000 feet, valued at \$4,508,583, an average of \$30.42 per M. Arkansas is the leading State in hickory production, with 15.8 per cent of the total, followed by Indiana, Kentucky, and Ohio.

The cut of hickory lumber reported in 1906 was more than one-half greater than that reported in 1899, but it does not necessarily follow that there has been an actual increase in hickory production to this extent. It is impossible to obtain absolutely complete figures for this wood. Much hickory is cut by small mills from which it is difficult to get reports. Also a great deal of hickory in the form of spoke and handle stock is sold by the piece instead of by the board foot, and no reports upon such material were received. There is a shortage of available hickory, and some of the best informed consumers of the wood have estimated that at the present rate of consumption the supply will be exhausted in fifteen years.

SUGAR PINE.

The commercial range of sugar pine is restricted to the west side of the Sierras and portions of the Coast Range in California, with a small extension into southern Oregon. Of the total production of 133,640,000 feet, valued at \$2,152,662, in 1906, California furnished over 97 per cent. While the cut of sugar pine will never reach large proportions compared with that of many other woods, it is increasing rapidly, and the production reported in 1906 was nearly two and one-half times that in 1899.

TABLE 28.—*Cut of sugar pine, 1906.*

State.	M feet.	Per cent.	Total value.	Value per M feet.
California.....	130,231	97.4	\$2,108,602	\$16.19
Oregon.....	3,409	2.6	44,060	12.92
Total.....	133,640	100.0	2,152,662	16.11

TAMARACK.

Tamarack, or eastern larch, is cut in the Lake States almost exclusively; the quantity reported from other States is so small as not to justify inclusion in Table 29. The reported cut in 1906 amounted to 123,395,000 feet, valued at \$1,926,627, an average of \$15.63 per M. Minnesota is the leading State, closely followed by Wisconsin and Michigan. It is probable that the total cut of tamarack is somewhat greater than that reported, as manufacturers frequently do not keep an accurate record of it, and to some extent it is mixed in with other lumber. The Census secured reports upon a production of slightly less than 84 million feet of tamarack in 1899.

TABLE 29.—*Cut of tamarack, 1906.*

State.	M feet.	Percent.	Total value.	Value per M feet.
Minnesota.....	47,433	38.4	\$771,942	\$16.27
Wisconsin.....	41,757	33.8	629,766	15.08
Michigan.....	34,205	27.8	524,919	15.35
Total.....	123,395	100.0	1,926,627	15.63

WHITE FIR.

Only recently has the white fir of the Rocky Mountain and Pacific Coast States been cut to any extent for lumber. The census secured no separate figures upon it in 1899 and 1904. About 52 million feet were reported to the Forest Service in 1905, and double that quantity was reported in 1906. Nearly two-thirds of the white fir cut last year was in California, and most of the remainder in Montana, Idaho, and Washington. While the white fir is not so valuable a timber as the Douglas fir, it is useful for various purposes, and reports of future production will undoubtedly show a strong increase. The average mill values at present range from \$10.87 per M in Montana, to \$13.45 in California, with an average of \$12.91.

TABLE 30.—*Cut of white fir, 1906.*

State.	M feet.	Per cent.	Total value.	Value per M feet.
California.....	67,769	65.0	\$911,474	\$13.45
Montana.....	14,464	13.8	157,186	10.87
Idaho.....	10,514	10.1	135,735	12.91
Washington.....	8,131	7.8	100,691	12.38
All others (4).....	3,451	3.3	41,217	11.95
Total.....	104,329	100.0	1,349,303	12.91

WALNUT.

More than one-fourth of the walnut lumber cut in 1906 was sawed in Indiana. Missouri came second with 14.4 per cent, followed by Kentucky, Ohio, Illinois, and Arkansas with nearly equal quantities. The total production was 48,174,000 feet, valued at \$2,033,722, or \$42.25 per M. The cut of walnut has increased by moderate degrees since 1899, when the production was 38,681,000 feet. Walnut is the highest-priced wood cut for lumber to any considerable extent in the United States. Many of the best walnut logs, however, are exported to Europe, principally to Germany, so that the quantities given in Table 31 do not represent the whole amount of walnut taken from the forests of the country.

TABLE 31.—*Cut of walnut, 1906.*

State.	M feet.	Percent.	Total value.	Value per M feet.
Indiana.....	12,924	26.8	\$530,408	\$41.04
Missouri.....	6,939	14.4	303,773	43.78
Kentucky.....	5,546	11.5	212,325	38.28
Ohio.....	5,479	11.4	245,783	44.86
Illinois.....	5,097	10.6	170,767	33.50
Arkansas.....	4,905	10.2	245,110	49.97
Tennessee.....	4,144	8.6	170,083	41.04
All others (10).....	3,140	6.5	155,473	49.52
Total.....	48,174	100.0	2,033,722	42.25

TUPELO.

Tupelo is another minor wood which has recently come into prominence. The first time the cutting of tupelo lumber was separately given was in 1905, when the Forest Service obtained reports of a production of 35,794,000 feet. The production reported for 1906 was 47,882,000 feet, valued at \$676,476, an average of \$14.13 per M. Tupelo is closely associated with cypress and is cut by cypress manufacturers chiefly; we find, therefore, that over one-fourth of the total production was in Louisiana, with most of the remainder furnished by North Carolina, Alabama, Virginia, and Mississippi.

TABLE 32.—*Cut of tupelo, 1906.*

State.	M feet.	Per cent.	Total value.	Value per M feet.
Louisiana.....	12,561	26.3	\$200,134	\$15.93
North Carolina.....	7,454	15.6	87,148	11.69
Alabama.....	5,835	12.2	94,670	16.22
Virginia.....	5,506	11.5	66,272	12.04
Mississippi.....	4,170	8.7	61,602	14.77
Arkansas.....	3,306	6.9	43,613	13.19
Missouri.....	2,174	4.5	25,938	11.94
Tennessee.....	2,113	4.4	37,656	17.82
All others (9).....	4,763	9.9	59,423	12.47
Total.....	47,882	100.0	676,476	14.13

—Lumber

h. et. 078	Sugar I.m.	Ash.	Hickory.	Walnut.	Tupelo.	All other hardwoods.
	M feet. 133,24,795	M feet. 214,460	M feet. 148,212	M feet. 48,174	M feet. 47,882	M feet. 97,581
575	429	2,377	1,360	5,835	21	1
	11,532	20,571	23,364	4,905	3,306	2
	130	2,118	2,829	40	4,616	3
		3	116	262	262	4
		370	553	728	728	5
	144	967	1,213	83	2,834	6
				1,104	8	7
					250	8
					130	9
	12,699	1,781	8,602	177	5,051	10
	141	285	1,597	15	2,191	11
	34,580	19,631	21,931	12,924	14,318	12
	4,234	848	20	107	1,030	13
	3,994	8,999	19,134	5,546	4,579	14
	302	3,382	276	715	507	15
	623	1,667	50	12,561	17	16
	58	804	1,115	38	241	18
	322	2,017	699	200	136	19
	29,261	24,500	500	478	478	20
	2,555	2,724	247	21		
	3,703	8,850	6,247	4,170	3,396	22
	5,251	7,972	10,630	6,939	2,174	23
488					15,761	24
					4,884	25
						26
	290	2,824	117			27
	94	115	1,199	6		28
						29
	9,855	15,585			18,053	30
	187	4,769	1,789	1	1,838	31
	3,058	21,359	15,836	5,479	2,757	32
		1,516		489	1,625	33
	5,635	9,484	9,389	342	1,314	34
	74	240	347		10	35
	51	1,636	25	1,839		36
					100	37
	4,513	12,404	11,996	4,144	2,113	38
	20	2,824	51		2,074	39
				51	252	40
						41
	1,759	5,184	53		57	42
	426	2,362	2,973	322	572	43
		11				44
	308	4,895	4,646	1,084	7,200	45
	12,136	19,386	5	215		46
					220	47
						48

—Lumber cut of the United States, by States and species, 1906.

State or Territory	Number of mills	Aggregate	SOFTWOODS															HARDWOODS																
			Total soft- woods	Yellow pine	Douglas fir	White pine	Henlock	Spruce	Western pine	Cypress	Redwood	Cedar	Larch	Sugar pine	Tamarack	White fir	All other softwoods	Total hard- woods	Oak	Maple	Poplar	Red gum	Chestnut	Basewood	Birch	Cotton- wood	Beech	Clin	Ash	Beech	Walnut	Tulip	Other hardwoods	
			M feet	M feet	M feet	M feet	M feet	M feet	M feet	M feet	M feet	M feet	M feet	M feet	M feet	M feet	M feet	M feet	M feet	M feet	M feet	M feet	M feet	M feet	M feet	M feet	M feet	M feet	M feet	M feet				
United States	22,393	M feet 37,550,730	M feet 30,245,245	M feet 11,661,077	M feet 4,969,813	M feet 4,589,727	M feet 3,537,329	M feet 1,644,987	M feet 1,356,777	M feet 529,270	M feet 659,678	M feet 357,815	M feet 160,078	M feet 133,640	M feet 123,395	M feet 104,329	M feet 67,264	M feet 7,315,491	M feet 2,829,393	M feet 882,878	M feet 683,132	M feet 433,678	M feet 370,638	M feet 203,900	M feet 370,132	M feet 25,991	M feet 25,793	M feet 214,340	M feet 143,733	M feet 143,622	M feet 147,682	M feet 97,518		
1 Alabama	637	1,009,783	913,374	936,493	374	901			56,586	5,880	40						66,400	32,976	12,270	8,436	1,340				1,330	35	42	2,77	1,20		5,825	21		
2 Arizona	8	86,960	56,960															523,970	218,826	2,067	5,234	110,819				2,610	500	11,532	2,571	2,534	9,025	3,300	4,16	
3 Arkansas	835	1,829,508	1,310,398	1,271,618			127,149		1,760	1,054	317,219		659,678	12,482		150,231	67,769	280	18												2,20			
4 California	269	1,345,659	1,348,279					2,007										2,035														40		
5 Colorado	138	310,212	108,177						1,714		9,103	1,165		25,611				205														40		
6 Connecticut	207	124,250	37,031							1,900								56		251	365	25	50	338									40	
7 Delaware	85	11,487	36,197	33,990														2,299	68		128	284										3,300		
8 Florida	278	888,137	883,838	809,841							6,135	280		15,905				47,510	21,030		15,195	1,509	2,613	35									3,300	
9 Georgia	622	631,675	781,105	761,812							84,314	4,019	4,428	210,303				3,333		336		10,514										3,300		
10 Idaho	168	415,914	115,561							34,070		350	3,371					27,726	30,575														3,300	
11 Illinois	365	141,374	18,105															127,269	70,767	4,510	1,105	9,875	50	634	7	1,053	550	12,070	1,75	5,023	5,075	177		
12 Indian Territory	50	45,691	25,553	28,553														20,141	5,405		1,155												2,200	
13 Indiana	820	447,808	1,360								140,009	3,097						446,418	221,120	29,555	25,234	21,036	2,300	8,547	3,055	3,050	31,501	14,580	1,933	2,914	1,438		3,300	
14 Iowa	78	163,747	144,206								10,717	21,449	2,711					3,031		205													3,300	
15 Kentucky	991	661,299	46,013	7,027													573,096															3,300		
16 Louisiana	424	2,700,395	2,690,711	2,120,615							291,663	118,294	537,975					15,100					28,092	73,150	16,301	8,107	391	330	4,455	30,533	10,349	6,231	1,76	
17 Maine	734	1,089,747	1,015,501	3,867							2,832	34,722	6,841					1,200					109,523	64,929	9,931	2,299	2,585	19,752	1,674	2,512	1,370	1,15		
18 Maryland	222	219,098	109,575	63,570							230,763	31,271	20,008					406					62,270	14,042	5,894	10	30,325	1,186	3,029	4,010	2,70	3,300		
19 Massachusetts	485	334,183	292,213	2,893							425,211	707,883	15,580					24,265					3,855	783,241	27,047	422,845	2,681	73,458	55,919	1,411	7,291	7,875		
20 Michigan	774	2,094,270	1,311,038								1,664,734	3,743	27,682					1,026					19,824	29,071	7,302	1,117	811	10,743	3,361	4,655	2,553	2,72		
21 Minnesota	318	1,791,144	1,765,073														44,528					286,168	110,370	110	7,070	73,412		5,849	3,470	8,150	6,127	4,170		
22 Mississippi	612	1,840,250	1,554,032	1,509,551													16,405					314,933	143,608	4,561	2,368	95,184	2,280	9	9,353	5,50	15,721	15,721	3,300	
23 Missouri	687	507,084	192,991	176,026													41,537	5,829	235	4,025	165,849		105	91,488		14,464	5,081						3,300	
24 Montana	84	328,727	323,043																															
25 Nebraska																																		
26 Nevada																																		
27 New Hampshire	652	639,259	479,520	977							352,319	51,858	90,156					87					1,153	59,709	16,023	8,023	103	3,300	2,052	1,910	2,44	17		
28 New Jersey	139	36,253	17,588	12,903							687	1,498	350					2,084						18,065	9,325	401	100	293	6,122	418	155	1,910	6	
29 New Mexico	33	103,079	103,079								9,298	1,897,923		1,174	92,407						40		427	279,601	21,116	60,566	22,698	28,830	50,142	27,739	19,165	15,35		
30 New York	2,488	810,919	531,318								111,050	208,518	210,123					422					227,568	107,262	230	58,089	5,598	31,707	2,079	4,78	1,729	1,838</		

— None reported.

ries, 1906.

	Poplar.	Red gum.
1	\$19.72	\$13.51
2		12.60
3		
4		
5		
6		
7		
8		
9	19.67	
10		13.86
11		
12	29.03	14.84
13		
14		
15	23.31	14.18
16		17.54
17		
18		
19		
20		
21		
22		13.60
23		12.75
24		
25		
26		
27		
28		
29	23.14	13.26
30	29.28	
31		
32		
33		
34		
35		
36	23.66	16.30
37		
38		
39		
40	23.11	
41		
42	24.92	
43		
	24.21	13.46

TABLE 34.—Average mill value of lumber by States and species, 1906.

State.	Average value per M feet.																											
	All species.	Yellow pine.	Douglas fir.	White pine.	Hemlock.	Spruce.	Western pine.	Cypress.	Red-wood.	Cedar.	Larch.	Sugar pine.	Tamarack.	White fir.	Oak.	Maple.	Poplar.	Red gum.	Chest-nut.	Bass-wood.	Birch.	Cotton-wood.	Beech.	Elm.	Ash.	Hickory.	Walnut.	Tupelo.
1 Alabama.	\$15.55	\$15.24					\$15.42								\$22.35		\$19.72	\$13.51								\$16.22	1	
2 Arizona.	15.38		14.75												20.05			12.00								14.57	2	
3 Arkansas.	16.12														\$13.45											28.38	3	
4 California.	15.37		\$13.27					\$13.19	13.90	12.09																38.62	4	
5 Colorado.	12.33																										19.07	5
6 Connecticut.	18.42																										13.19	6
7 Delaware.	12.26																											1
8 Florida.	17.50	16.63																										5
9 Georgia.	15.38	15.02																										7
10 Idaho.	14.24																											8
11 Illinois.	21.74																											9
12 Indian Territory.	13.05																											10
13 Indiana.	24.66																											11
14 Iowa.	22.74																											12
15 Kentucky.	19.92																											13
16 Louisiana.	16.61	15.05																										14
17 Maine.	16.87																											15
18 Maryland.	17.14	13.42																										16
19 Massachusetts.	15.54																											17
20 Michigan.	15.93																											18
21 Minnesota.	17.41																											19
22 Mississippi.	16.81	16.16																										20
23 Missouri.	15.83	12.26																										21
24 Montana.	13.18		12.28																									22
25 New Hampshire.	15.50																											23
26 New Jersey.	25.42																											24
27 New Mexico.	18.78																											25
28 New York.	21.26																											26
29 North Carolina.	15.59	13.80																										27
30 Ohio.	24.13																											28
31 Oregon.	13.93		14.00																									29
32 Pennsylvania.	18.39																											30
33 Rhode Island.	17.52																											31
34 South Carolina.	15.80	15.65																										32
35 South Dakota.	15.87																											33
36 Tennessee.	21.25																											34
37 Texas.	14.99	14.95																										35
38 Utah.	15.21																											36
39 Vermont.	16.61																											37
40 Virginia.	15.22	13.23																										38
41 Washington.	14.41		14.34																									39
42 West Virginia.	18.69																											40
43 Wisconsin.	17.16																											41
Average.	16.60	15.02	14.20	18.32	15.31	17.33	14.01	21.94	16.64	18.12	11.81	16.11	15.63	12.91	21.56	15.53	24.21	13.46	17.49	18.66	17.21	17.15	14.05	18.08	21.35	30.42	42.25	14.13

LUMBER PRODUCTION BY STATES.

The quantity and the average value per M of the lumber production of the United States in 1906, by States and species, together with the number of mills reporting from each State, are shown in Tables 33 and 34. Nearly all of the figures given in these two tables are found in the preceding tables for individual species, but they are here brought together in order that the totals and averages for the various States may be readily compared. In 1906 the following States led in the production of the kinds of lumber specified:

Arkansas: Red gum, cottonwood, hickory.

California: Redwood, western pine, sugar pine, white fir.

Indiana: Walnut.

Kentucky: Oak, poplar.

Louisiana: Yellow pine, cypress, tupelo.

Maine: Spruce.

Michigan: Maple, beech, ash.

Minnesota: White pine, tamarack.

Montana: Larch.

Pennsylvania: Hemlock, chestnut.

Washington: Douglas fir, cedar.

Wisconsin: Basswood, birch, elm.

SHINGLES.

The production of shingles, by species, in 1906 is shown in Table 35; the total number was 11,858,260,000, valued at \$24,154,555, an average of \$2.04 per M.

TABLE 35.—*Production of shingles, by species, 1906.*

Kind.	Thou-sands.	Per cent.	Total value.	Value per M.
Cedar.....	8,735,699	73.5	\$17,113,873	\$1.96
Cypress.....	1,235,721	10.4	3,071,866	2.49
Redwood.....	819,770	6.9	1,333,431	1.62
Yellow pine.....	553,486	4.9	1,340,858	2.42
White pine.....	226,214	1.9	488,962	2.16
Hemlock.....	131,157	1.1	357,867	2.73
Spruce.....	62,880	.5	157,012	2.50
Chestnut.....	32,544	.3	122,047	3.75
Oak.....	24,034	.2	76,051	3.16
All others.....	36,755	.3	92,588	2.52
Total.....	11,858,260	100.0	24,154,555	2.04

Shingles are made to some extent from a large number of woods, but the several varieties of cedar furnished nearly three-fourths of the total quantity. Some cedar shingles are made in the New England and northeastern States, and a considerable number in the Lake States, but a very large proportion of the cedar shingles are cut in

Washington from the giant arborvitae, the so-called "red cedar" of that region. Another species of the same genus is the arborvitae or "white cedar" of the Lake States. Owing to unsatisfactory market conditions early in the year, and later to inadequate shipping facilities, the shingle production of Washington was somewhat curtailed in 1906 and fell below that in 1905.

Cypress is the next wood in importance in point of shingle production, and furnished one-tenth of the total cut in 1906. The making of cypress shingles, however, is beginning to decrease, as some of the manufacturers are finding it more profitable to work into other forms the material which formerly went into shingles.

Over 800,000,000 redwood shingles were cut in 1906, and their production is increasing. The production of yellow pine shingles has fallen off since 1899, and that of white pine shingles has decreased still more heavily; in fact, the cut of white pine shingles in 1906 was less than one-eighth of that in 1899. The only important kinds of shingles which show any increase in production are cedar and redwood, and they are coming to occupy more and more a predominating position in the shingle-making industry.

As is the case with the various kinds of lumber, the mill values of shingles have risen during the past few years; the average value of the cut in 1899 was \$1.56 per M., as against \$2.04 in 1906.

The shingle production by States in 1906 is shown by Table 36. The relative prominence of each State in the industry is due to the presence of one or more of the shingle woods mentioned in the preceding paragraphs. Because of the great quantities of cedar which it contains, Washington is far in the lead, and the cut there last year was over three-fifths of the whole. Michigan, Louisiana, and California rank nearly together, with averages of from 7.7 to 7 per cent. The Michigan shingles are mostly cedar, those of Louisiana cypress and yellow pine, and those of California redwood.

TABLE 36.—*Production of shingles, by States, 1906.*

State.	Thou-sands.	Percent.	Total value.	Value per M.
Washington.....	7,286,508	61.5	\$13,834,016	\$1.90
Michigan.....	915,153	7.7	1,962,184	2.14
Louisiana.....	866,597	7.3	2,005,990	2.31
California.....	834,329	7.0	1,368,051	1.64
Maine.....	340,948	2.9	743,097	2.18
Wisconsin.....	302,876	2.5	703,973	2.32
Arkansas.....	228,563	1.9	498,149	2.18
Florida.....	175,720	1.5	562,835	3.20
Georgia.....	161,339	1.4	392,038	2.43
All others.....	746,227	6.3	2,084,222	2.79
Total.....	11,858,260	100.0	24,154,555	2.04

LATH.

Lath are so generally a by-product of lumber manufacture that they are cut to some extent from almost every wood which is made into lumber, though the order of the various woods in point of importance as a source of lath production does not correspond to their rank in lumber production. The total production of lath in 1906 was 3,812,807,000, valued at \$11,490,570, an average of \$3.01 per M.

TABLE 37.—*Production of lath, by species, 1906.*

Kind.	Thousands.	Per cent.	Total value.	Value per M.
White pine.....	933,481	24.4	\$3,216,376	\$3.45
Yellow pine.....	767,701	20.2	2,047,740	2.67
Hemlock.....	619,160	16.2	2,029, ²⁹⁴ 604	3.28
Douglas fir.....	551,020	14.4	1,126,601	2.04
Spruce.....	430,345	11.3	1,325,097	3.08
Cypress.....	180,271	4.7	620,587	3.44
Oak.....	58,497	1.5	226,503	3.88
Cedar.....	47,955	1.3	169,223	3.53
Basswood.....	40,883	1.1	144,134	3.53
Poplar.....	31,839	.9	115,931	3.64
Chestnut.....	21,934	.6	73,425	3.35
Ash.....	20,133	.5	65,854	3.27
All others.....	109,588	2.9	329,235	3.00
Total.....	3,812,807	100.0	11,490,570	3.01

White pine furnished nearly one-fourth of the total, yellow pine one-fifth, hemlock 16.2 per cent, Douglas fir 14.4 per cent, spruce 11.3 per cent, and cypress 4.7 per cent. These six species supplied more than nine-tenths of the total. The census did not report the lath production by species in 1899, so no comparisons along this line are possible. The average value of the lath produced in that year, however, was but \$1.86 per M, as against an average of \$3.01 per M in 1906.

The production of lath, by States, in 1906 is given in Table 38. Minnesota, Washington, and Wisconsin lead, with from 12 to 13.2 per cent each. Next come Louisiana, Maine, and Michigan, with between 8 and 9 per cent apiece. These six States furnish nearly two-thirds of the whole quantity.

TABLE 38.—*Production of lath, by States, 1906.*

State.	Thousands.	Per cent.	Total value.	Value per M.
Minnesota.....	501,673	13.2	\$1,763,655	\$3.52
Washington.....	479,187	12.5	1,028,307	2.15
Wisconsin.....	457,880	12.0	1,334,866	2.92
Louisiana.....	348,530	9.1	1,011,143	2.90
Maine.....	329,549	8.7	1,005,459	3.05
Michigan.....	317,395	8.3	1,119,630	3.53
Pennsylvania.....	200,494	5.3	765,289	3.82
Oregon.....	156,973	4.1	338,636	2.16
West Virginia.....	137,506	3.6	507,422	3.69
All others.....	883,626	23.2	2,616,163	2.96
Total.....	3,812,807	100.0	11,490,570	3.01

KILN-DRYING.

The quantity of lumber reported as kiln-dried by the manufacturers in 1906 is shown by States in Table 39. It is not practicable to give accurate figures upon the quantity by species.

TABLE 39.—*Quantity of lumber kiln-dried by lumber manufacturers, 1906.*

State.	M feet.	Per cent of total cut of State.	State.	M feet.	Per cent of total cut of State.
Alabama.....	79,228	7.9	Missouri.....	34,617	6.8
Arizona.....	3,994	7.0	Montana.....	13,830	4.2
Arkansas.....	514,211	27.9	New Hampshire.....	21,139	3.9
California.....	109,118	8.1	New Mexico.....	12,817	12.4
Colorado.....	3,280	3.0	North Carolina.....	375,639	30.6
Connecticut.....	1,128	.9	Ohio.....	17,548	4.0
Delaware.....	612	13.7	Oregon.....	185,972	11.6
Florida.....	178,587	20.1	Pennsylvania.....	29,685	1.8
Georgia.....	165,855	20.0	South Carolina.....	201,668	35.4
Idaho.....	24,048	5.7	Texas.....	432,329	24.8
Illinois.....	767	.5	Tennessee.....	32,195	5.1
Indian Territory.....	2,008	4.1	Vermont.....	24,221	7.3
Indiana.....	12,698	2.8	Virginia.....	200,331	18.8
Kentucky.....	19,808	3.0	Washington.....	575,501	13.4
Louisiana.....	746,853	26.7	West Virginia.....	14,798	1.5
Maine.....	11,541	1.1	Wisconsin.....	74,991	3.2
Maryland.....	978	.4	All others (Iowa, New Jersey, Rhode Island, Utah, Wyoming).....	409	.2
Massachusetts.....	7,029	2.0			
Michigan.....	94,976	4.5			
Minnesota.....	9,745	.5			
Mississippi.....	415,873	22.6	Total.....	4,650,027	12.4

Yellow pine is the wood most largely kiln-dried, as it dries very readily and the shipping weight is thus reduced. In many cases, also, this process improves the quality of the lumber by preventing stain. The fact that yellow pine is the principal wood kiln-dried is indicated by the table, in which it will be noted that every State which shows a high percentage of lumber kiln-dried is a prominent yellow pine producing State. The proportion in South Carolina, for instance, is 35.4 per cent. Considerable Douglas fir is also kiln-dried—11.6 per cent of the cut of Oregon lumber and 13.4 per cent of that of Washington in 1906. On the other hand, but little hardwood lumber is kiln-dried by sawmill operators, and it will be noted from the table that no State which is prominent in hardwood production shows a large amount of lumber kiln-dried. For the entire country the proportion of the total cut kiln-dried by lumber manufacturers is 12.4 per cent.

SURFACING.

The quantity and proportion of the total cut of lumber surfaced by the manufacturers in 1906 is given by States in Table 40. In this case, as with kiln-drying, it is not practicable to state the exact amounts surfaced by species. The coniferous woods, however, are most largely surfaced by sawmill operators.

TABLE 40.—*Quantity of lumber surfaced by lumber manufacturers, 1906.*

State.	M feet.	Per cent of total cut of State.	State.	M feet.	Per cent of total cut of State.
Alabama.....	84,074	8.4	Missouri.....	119,273	23.5
Arizona.....	19,464	34.2	Montana.....	164,930	50.2
Arkansas.....	919,677	50.0	New Hampshire.....	98,187	18.2
California.....	348,345	25.8	New Jersey.....	2,945	8.1
Colorado.....	40,576	36.8	New Mexico.....	59,610	57.0
Connecticut.....	4,726	3.8	North Carolina.....	221,705	18.1
Delaware.....	7,049	15.8	Ohio.....	47,355	10.8
Florida.....	156,539	17.6	Oregon.....	573,760	35.7
Georgia.....	162,954	19.6	Pennsylvania.....	194,688	12.0
Idaho.....	206,639	45.4	South Carolina.....	100,433	17.7
Illinois.....	12,598	24.1	Texas.....	1,038,331	59.5
Indian Territory.....	11,752	46.6	Tennessee.....	76,738	12.1
Indiana.....	25,480	8.9	Vermont.....	130,714	39.7
Iowa.....	76,259	5.7	Virginia.....	168,108	15.9
Kentucky.....	119,917	18.1	Washington.....	1,353,849	31.4
Louisiana.....	1,519,621	54.4	West Virginia.....	139,949	14.3
Maine.....	205,947	18.9	Wisconsin.....	934,223	40.1
Maryland.....	21,046	9.6	Wyoming.....	3,574	27.0
Massachusetts.....	79,949	22.5	All others (Rhode Island and Utah).....	1,366	4.7
Michigan.....	317,396	15.1	Total.....	11,077,238	30.0
Minnesota.....	796,219	44.4			
Mississippi.....	511,273	27.8			

Since large establishments are likely to turn out a more finished product, the greatest proportion of lumber surfaced is in States where large mills cutting coniferous woods are common, and a small proportion is surfaced where the cut is mostly hardwoods, by small and portable mills; in Texas, for instance, 59.5 per cent of the total quantity of lumber manufactured last year was surfaced at the mills, while in Connecticut but 3.8 per cent of the cut was so handled. For the entire country 30 per cent of the lumber production was surfaced by the manufacturers.

STOCK ON HAND.

LUMBER.

The quantity of lumber reported as being in the hands of the manufacturers on January 1, 1907, together with the percentage of the total quantity cut in 1906, which this represents, is given in Table 41. The range is from 10.7 per cent with spruce to 50.1 per cent with cypress. Many factors are to be considered in explaining these wide variations, such as the time required for seasoning different species under different conditions, market conditions, shipping facilities, ability of manufacturers to carry large stocks, etc. For the entire country the quantity of lumber in the hands of the manufacturers on January 1, 1907, was equivalent to 21.6 per cent of the 1906 production.

TABLE 41.—*Lumber on hand January 1, 1907, by species.*

Kind.	M feet.	Per cent of 1906 cut.	Kind.	M feet.	Per cent of 1906 cut.
Cypress.....	420,620	50.1	Beech.....	44,532	16.2
White pine.....	1,618,273	35.3	Yellow pine.....	2,124,953	18.2
Birch.....	104,909	28.3	Chestnut.....	68,839	16.9
Western pine.....	426,246	30.7	Cedar.....	62,352	17.4
Red gum.....	134,411	29.6	Ash.....	34,330	16.0
Maple.....	230,740	27.2	Oak.....	455,309	16.2
Hemlock.....	940,557	26.6	Douglas fir.....	683,452	12.7
Cottonwood.....	65,872	24.9	Spruce.....	173,509	10.7
Redwood.....	147,338	22.3	All others.....	176,649	10.7
Elm.....	41,990	18.7	Total.....	8,121,005	21.6
Poplar.....	136,788	20.0			
Basswood.....	65,986	17.4			

SHINGLES.

The reported quantities of shingles in the hands of the manufacturers on January 1, 1907, is shown in Table 42. It is unusual for shingle manufacturers to carry very heavy stocks, and it will be noted that, for the country as a whole, the stocks on hand represented a little more than one-tenth of the previous year's cut.

TABLE 42.—*Shingles on hand January 1, 1907, by species.*

Species.	Thou-sands.	Per cent of 1906 cut.	Species.	Thou-sands.	Per cent of 1906 cut.
Cedar.....	\$28,109	10.3	Spruce.....	5,578	\$.8
Cypress.....	133,818	10.8	Chestnut.....	8,676	26.6
Redwood.....	108,609	13.3	All others.....	14,540	40.4
Yellow pine.....	48,455	8.8	Total.....	1,296,070	10.9
White pine.....	38,250	16.0			
Hemlock.....	31,675	24.1			

STUMPPAGE VALUES.

The question of stumpage values is of so much interest that early in 1907 the Forest Service secured reports from a large number of the leading lumber manufacturers on their respective localities. The figures obtained as a result of this canvass are given in the third column of Table 43. They are based on more than 1,500 reports, and so may be considered representative.

TABLE 43.—*Comparison of stumpage values, 1899, 1904, 1907.*

Kind.	Average value per M feet.			Kind.	Average value per M feet.		
	1899	1904	1907		1899	1904	1907
White pine.....	\$3.66	\$4.62	\$8.09	Birch.....			\$4.40
Ash.....	3.03	3.95	7.58	Cypress.....	\$1.55	\$3.42	4.37
Basswood.....	1.50	3.89	6.79	Cottonwood.....	1.45	2.61	3.97
Hickory.....	6.69	Beech.....			3.56
Oak.....	3.18	3.83	6.52	Yellow pine.....	1.12	1.68	3.16
Spruce.....	2.26	3.70	5.49	Maple.....	2.66	3.82	2.50
Chestnut.....	2.71	3.89	4.37	Red gum.....	1.68	1.67	2.46
Elm.....	3.80	5.58	4.94	Redwood.....	1.06	1.55	2.35
Poplar.....	2.51	3.89	4.64	Western pine.....			1.66
Cedar.....	1.32	1.49	4.63	Douglas fir.....		1.05	1.44
Hemlock.....	2.56	3.51	4.51	Tupelo.....			1.27

* White oak only.

* Eastern spruce only.

* Eastern hemlock only.

The main factors which influence the stumpage price of any species in a given locality are quantity, quality, market conditions, and accessibility, but it is difficult to determine which of these has the most weight in fixing the average stumpage value for a species over its entire range. In the Rocky Mountain and Pacific coast regions the roughness of the land contributes the element of inaccessibility to lower the stumpage value. In the more densely settled hardwood sections of the Central States this difficulty is less and the amount of timber standing on a tract, and its quality, are likely to exert the principal influence. Mill values for hardwood are, in general, higher than those for softwoods, and this affects stumpage prices, though there are notable exceptions to the rule, such as white pine, a softwood, and red gum, a hardwood. In accordance with the general law of supply and demand, relatively high stumpage values obtain with those woods the virgin supplies of which are most nearly exhausted or which have passed largely into the possession of a few owners. It will be noted in this connection that the highest average value, \$8.09 per M, was reported for white pine, and the next to the lowest, \$1.44 per M, for Douglas fir. In general it is true that decidedly higher stumpage values obtain in the Northern and Eastern States than in the Southern and Western States.

For purposes of comparison, the average stumpage values given by the census for 1899 and 1904 are also shown in Table 43. It will be noted that almost without exception the 1904 values exceed those of 1899, and that the 1907 values are nearly all much in excess of those of 1904. Brief mention will be made of the values reported for the several species in different localities and under varying conditions.

WHITE PINE.

The average stumpage value of \$8.09 given for white pine is based upon 400 reports from 19 States. The average State values run from \$1.56 in Alabama to \$11.51 in Wisconsin. The quotations from New England and the Middle Atlantic States are considerably higher than those from farther south in the Appalachian region. The maximum value of white pine stumpage, \$20 per M, is reported from the farming counties of New York, northwest and central Pennsylvania, and northern Wisconsin. In Michigan, the quotations extend from \$5 to \$18, with an average of \$10.73 for the lower peninsula and \$11 for the upper. In Minnesota the range reported is from \$5 to \$12, with an average of \$7.58. The rise in white pine stumpage has been very rapid. The census quotations gave \$3.66 in 1899 and \$4.62 in 1904.

ASH.

Seven hundred and fifty reports upon the value of ash stumpage in 35 States resulted in an average of \$7.58 per M. Eliminating California, Washington, Indian Territory, Georgia, Rhode Island, and New Jersey, where ash is relatively unimportant and from which few reports were received, the range in average State values was from \$3.15 per M in Oregon to \$15.11 in Indiana. The highest average values, \$18 and \$19 per M, were reported from northern and central Indiana and northwestern Ohio. On the other hand, the average of the reports from the Mississippi Valley section of Arkansas was but little more than \$4 per M, and from the Mississippi Valley portion of Mississippi, \$5.43 per M.

BASSWOOD.

Four hundred and fifty-eight reports upon the value of basswood stumpage in 21 States gave an average of \$6.79 per M. Prices in individual States varied between 88 cents in Arkansas and \$10.83 in Indiana. As is the case with other hardwoods, the lower stumpage values are found in the Southern States and most of the quotations for basswood in this region are under \$4 per M against quotations of \$6 and upward in most of the Northern States. In Wisconsin, the most important State in the production of basswood lumber, stumpage quotations ran from \$3 to \$15 per M, with an average of \$6.59, and similar conditions obtain in Michigan, the second State in importance.

HICKORY.

Five hundred and forty reports from 24 States gave an average value of \$6.69 for hickory stumpage. State averages ranged from \$3.17 for Alabama to \$15.75 for New York. In Arkansas, the most important hickory-producing State, quotations ran from 50 cents to \$10 per M; and in Indiana, the second State, from \$1.75 to \$30 per M. The highest individual reports came from the farming counties of New York, western Massachusetts, Ohio, and Indiana, and the lowest from the southwest and central sections of Arkansas.

OAK.

More than 1,700 reports upon the value of oak stumpage resulted in an average of \$6.52 per M. With white oak the values ranged from \$1.08 in Indian Territory to \$16.30 in Indiana; the highest quotations came from western Kentucky, central and southern Indiana, and New York. In Kentucky and Indiana the high values are due to the unusually fine quality and limited supply, while the nearness to ready markets caused the maximum price of \$30 per M in

New York. Quotations of \$20 per M for white oak stumpage were received from Vermont, Massachusetts, Pennsylvania, New Jersey, Wisconsin, Ohio, and Indiana. The maximum quotation for red oak stumpage was \$20 in Pennsylvania, Michigan, Wisconsin, and Indiana. On the other hand, from the Southern States many quotations of \$1 per M for red oak were received, and some as low as 50 cents. In Kentucky, which is now the leading State in the production of oak lumber, the average stumpage values reported for white oak were \$3.05 in the eastern part of the State, \$6.26 in the central and \$9.62 in the western. For the same sections of Kentucky, the average quotations on red oak stumpage were \$2.40, \$4.56, and \$6.87. In West Virginia, the second most important oak-producing State, the average quotations for both kinds ran from \$4 to \$5 per M.

SPRUCE.

Two hundred and sixty-seven reports upon the value of eastern spruce stumpage were received from 16 States. Most of the reports, however, came from New England and the Lake States, and a few from the Southern Appalachian region. The average for the whole country was \$5.49 per M. That for northern Maine was \$5.14 per M, and that for the southern part of the State \$6.02. Average values of \$6.07 per M were reported from New Hampshire, \$5.87 from Vermont, and \$4.67 from the Adirondack counties of New York. The average price reported from West Virginia is \$4.63 per M, from the upper peninsula of Michigan \$5.02, and from the lower peninsula \$5.40. The maximum quotations from Wisconsin and Minnesota are \$10 per M, with an average of \$6.16 in the former State and of \$5.47 in the latter.

Quotations of spruce stumpage values range from \$1 to \$5 per M in Washington to \$3 in Oregon and to \$2.50 in Colorado and Idaho.

CHESTNUT.

Three hundred and sixty-five reports upon the value of chestnut stumpage in 18 States gave an average of \$4.97 per M. State quotations ran from \$1.86 in Georgia to \$9.43 in New Jersey; the average value for 11 States ranged between \$4 and \$8 per M. Practically all the average values for the Southern States were below \$4 per M and of the northern States above \$5. In Pennsylvania, the leading State in point of chestnut production, extreme quotations were \$2 and \$20 per M; the average for the central portion was \$5.34 and for the northwestern \$8.09. In West Virginia the average quotation in the eastern part of the State was \$2.81 per M and in the western \$3.35. Slightly higher values held in Kentucky and Tennessee.

ELM.

An average value of \$4.94 for elm stumps was obtained from 496 reports from 23 States. The State averages ranged from \$1 in Louisiana to \$9.64 in Indiana; though the reports from the former State were too few to be satisfactory. Quotations of \$15 per M for elm stumps are not unusual in the Northern States: the average for the lower peninsula of Michigan is \$8.34 per M and for northern Indiana \$10. On the other hand, quotations in excess of \$3 in the Southern States are infrequent. In Arkansas, the most prominent southern State in the production of elm lumber, quotations run from 50 cents to \$3 per M; while in Wisconsin reports upon soft elm run from \$2 to \$5 and those upon rock elm \$3 to \$15.

POPLAR.

Four hundred and forty-eight reports from 16 States upon the value of poplar stumps gave an average of \$4.64 per M. The State quotations ran from \$3.43 per M in Georgia to \$18.64 in Indiana. In nearly all the Southern States the average stumps reported for poplar was under \$5 per M; in the States farther north it was over \$8 per M. It is especially interesting to note that the average stumps values reported for poplar are higher than those for white oak in all but seven States, and that in Illinois and Virginia they are only a few cents lower. The highest individual reports upon poplar stumps come from Indiana and western Kentucky.

CEDAR.

The average price reported for cedar stumps, based upon 322 quotations from 17 States, was \$4.63 per M. In Washington, which is by far the most important State for cedar, the reports ran from 50 cents to \$5 per M, with an average of \$1.86 for the Puget Sound and coast counties. Practically the same average value was reported from northern Idaho. In Michigan the quotations ranged from 50 cents to \$10 per M, with an average of \$3.43 for the upper peninsula and \$5.02 for the lower. In Maine the range was from \$2 to \$10 per M, with an average of \$3.88 for the northern portion of the State and \$4.65 for the southern. In Florida quotations for pencil cedar ran as high as \$60 per M. This cedar, of course, is an entirely different species from those of the northern and western States.

HEMLOCK.

Eastern hemlock stumps has an average value of \$4.51 per M, according to 462 reports from 16 States. In Pennsylvania, the most

important hemlock-producing State, stumpage quotations ran from \$1.50 to \$18 per M, with an average of \$6.18 in the central part of the State, \$9.10 in the northeastern part, and \$9.57 in the northwestern. In Wisconsin the value of hemlock stumpage, according to the reports, ran from \$1 to \$7 per M, with an average of \$3.31. The range in Michigan was from \$1.50 to \$10, with an average of \$2.85 for the upper peninsula and \$4.73 for the lower. The West Virginia quotations ran from \$1.50 to \$7 per M, with an average practically the same as in Wisconsin. The few reports upon western hemlock received from Oregon and Washington ranged from 25 cents to \$3 per M.

BIRCH.

The average value of birch stumpage, based upon 420 reports from 18 States, was \$4.40 per M. The range in State averages was from \$2 in Alabama to \$6.50 in Indiana, with half of them between \$3.50 and \$5. In Wisconsin, which produces two-fifths of the birch lumber annually manufactured, the range in birch stumpage quotations was from \$1 to \$12, with an average of \$3.94. Michigan reported the same extremes, with an average of \$3.24 for the upper peninsula and \$5.49 for the lower. The range in the Adirondack counties of New York was from \$1 to \$10 per M, with an average of \$4.58. In Maine the range was from \$2 to \$10 per M, with an average of \$3.33 for the northern part of the State and \$5.75 for the southern. In eastern West Virginia 20 reports gave a range from \$1 to \$5 per M, with an average of \$2.60.

CYPRESS.

The average value of cypress stumpage, based upon 200 reports, was \$4.37 per M. In Louisiana the extreme quotations were \$2 and \$10 per M, with an average of \$4.65 for the southeastern portion of the State, which may be considered fairly representative. In Florida stumpage prices ranged from \$1.50 to \$12, with an average of \$4.14; and in the Mississippi Valley section of Mississippi, from \$2 to \$5, with an average of \$3.69.

COTTONWOOD.

Two hundred and twenty-one reports gave the average value of cottonwood stumpage as \$3.97 per M. State averages ran from \$1.57 in Idaho to \$11.64 in Ohio. In the Mississippi Valley section of Arkansas, the largest cottonwood-producing section of the United States, quotations ran from \$1 to \$7 per M, with an average of \$2.91. In the same relative situation in Mississippi the ranges were from \$1

to \$4 per M, with an average of \$2.39, and similar prices were quoted from northern Louisiana.

It is interesting to note that 15 quotations of cottonwood stumppage prices in the State of Washington ranged from 25 cents to \$2.50 per M, and that in one case a price of \$3 per M was reported from Oregon.

BEECH.

The average value of beech stumppage, based upon 481 reports from 20 States, was \$3.56 per M; the State averages ranged from \$1.54 in Georgia to \$6.10 in Indiana. In the lower peninsula of Michigan, the leading region for beech production, the quoted prices ran from \$1 to \$6 per M, with an average of \$2.89. In central Pennsylvania, another important beech-producing region, the reports ranged from \$1 to \$10 per M, with an average of \$3.83. The New York quotations closely followed those of Pennsylvania. The average prices of Indiana, which ranks next in importance, were somewhat higher—\$4.89 for the southern part of the State, \$6.30 for the central part, and \$8.09 for the northern.

YELLOW PINE.

Nearly 600 reports upon the value of yellow pine stumppage gave an average of \$3.16 per M, nearly three times that given by the census for 1899. The reports upon longleaf yellow pine, the most important of the yellow pine group, ranged from \$1.50 to \$5 in Florida and Georgia, and from \$2.50 to \$5.40 in southern Alabama. In southern Mississippi the range was from \$2 to \$5 per M. Practically the same ranges were quoted for southern Louisiana; the average for Sabine and Calcasieu parishes was \$3.79. In the eastern counties of Texas longleaf pine stumppage values were from \$1.25 to \$5 per M. In Arkansas, the leading shortleaf pine producing State, stumppage values were quoted at from \$1 to \$5 per M, with an average of approximately \$2.50 per M.

In eastern Virginia loblolly or North Carolina pine was quoted at from \$1.50 to \$7 per M, with an average of slightly more than \$3. The range in eastern North Carolina was from \$1.50 to \$4, with an average of \$2.56. The average stumppage price quoted for this species in northern Mississippi was \$1.60 per M, with a range of from \$1 to \$3; and in Texas the reports upon the value of loblolly ran up to \$2.50.

MAPLE.

Six hundred and fifty-one reports from 27 States gave an average value of \$2.50 for maple stumppage. A few reports as high as \$15 were received, and quotations up to \$10 were not infrequent. In the

lower peninsula of Michigan, the most important maple-producing region, the range was from \$2 to \$10, with an average of \$4.55, in strong contrast with the average of \$1.91 reported from the upper peninsula. In northern Wisconsin the highest quotations were the same as those in the southern peninsula of Michigan, but the average was not quite half as high. The same ranges were found in central Pennsylvania, with an average of \$4.16 per M, which is increased to \$5.92 in the northwestern part of the State. In West Virginia, the most important of the southern Appalachian States in the production of maple, stumpage quotations ran from 50 cents to \$5 per M, with an average of approximately \$2 per M.

It is interesting to note that 20 quotations upon stumpage prices for maple in Oregon and Washington ranged from 50 cents to \$10 per M, with an average of about \$2.75.

RED GUM.

The average price of red gum stumpage is \$2.46 per M, according to 291 reports from 18 States. The State averages ran from \$1.05 in Texas to \$6.93 in Indiana. In the principal red gum producing sections of Arkansas the stumpage quotations ranged from 50 cents to \$3 per M, with an average of about \$1.25. The average value is higher in Missouri, where the highest quotations were \$4 per M. In Mississippi, the third State in point of red gum production, approximately the same values were quoted as in Arkansas. In western Kentucky an average of \$4.69 was reported, the highest for any region in which there is considerable red gum production.

REDWOOD.

The reported average value of redwood stumpage in California was \$2.35 per M. In the redwood belt north of San Francisco Bay, the principal region of redwood lumber production, the average was \$1.97 per M, the minimum \$1 and the maximum \$5. The reported prices for redwood stumpage in the counties south of the bay, where the stands are much more limited, ranged from \$2 to \$8 per M, with an average of \$3.85.

WESTERN PINE.

About 200 reports upon the stumpage value of western pine gave an average of \$1.66 per M, with State averages ranging from \$1.08 in Oregon to \$2.67 in Arizona. Most of the reports from California, the largest western pine lumber producing State, came from the northern interior counties, and ranged from 50 cents to \$3, with an average of \$1.35. The same range was reported from eastern Wash-

ington, with an average of \$1.88; and practically the same values were given for both northern and southern Idaho. The highest value reported was \$6, from South Dakota. The values reported for western pine fall within closer limits than those of any other species.

DOUGLAS FIR.

Two hundred and sixty-six reports upon the stumpage value of Douglas fir gave an average value of \$1.44 per M. State averages ranged from \$1.11 in Oregon to \$3 in New Mexico. There is but little Douglas fir in New Mexico, however. In the coast and Puget Sound sections of Washington, the great centers of Douglas-fir lumber production, the extreme stumpage prices quoted were 50 cents and \$5 per M, with an average of about \$1.75. In western Oregon the prices quoted were considerably lower, with an average of \$1.09 per M. Nearly the same values were given for northern California.

TUPELO.

About 90 reports upon the value of tupelo stumpage gave an average of \$1.27 per M, the extreme quotations being 50 cents and \$5 per M. In Louisiana, the largest tupelo-producing State, the average value of tupelo was reported as about \$1 per M. In the Mississippi Valley section of Mississippi the range was from \$1 to \$2, with an average of \$1.23, and in Alabama the same range was given, with an average of about \$1.50.

Approved:

JAMES WILSON, *Secretary.*

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